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MCAS EL TORO
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Technical Memorandum

Groundwater Monitoring Report
Petroleum Storage Facilities at Various Locations
Marine Corps Air Station
El Toro, California

SWDIV Contract No. N68711-93-D-1459, Delivery Order No. 0050
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Acronyms and Abbreviations

BTEX	benzene, toluene, ethylbenzene, and total xylenes
C&T	Curtis & Tompkins, Ltd.
CA LUFT	California Leaking Underground Fuel Tank
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DO	Delivery Order
EPA	United States Environmental Protection Agency
ft/ft	feet per feet
MCAS	Marine Corps Air Station
msl	mean sea level
MTBE	methyl tertiary-butyl ether
OHM	OHM Remediation Services Corp.
PPE	personal protective equipment
SWDIV	Southwest Division Naval Facilities Engineering Command
TCE	trichloroethene
TPH	total petroleum hydrocarbons
UST	underground storage tank
VOC	volatile organic compound

Executive Summary

The Technical Memorandum, *Groundwater Monitoring Report, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station, El Toro* presents data on groundwater conditions at the Marine Corps Air Station (MCAS), El Toro, California. The groundwater monitoring activities presented in this report were performed by OHM Remediation Services (OHM) personnel December 1996 through February 1997.

The purpose of this report is to present information pertaining to groundwater elevations and quality in the vicinity of active and former petroleum storage sites at MCAS El Toro.

The report presents groundwater conditions at MCAS El Toro from specific sampling events that occurred between December 1996 and February 1997. The sampling events were performed at Tank Farm 1, Tank Farm 2, Tank Farm 3, Tank Farm 4, Tank Farm 5, Tank Farm 6, Tank Farm 555, and Former Underground Storage Tank Sites 390 A and 390 B. The well network for the sampling program included wells installed by OHM and selected wells from the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Program. The CERCLA wells were included due to their proximity to petroleum storage sites and utilization as an upgradient or downgradient data control point.

A total of 44 monitoring wells and two small diameter piezometers installed by OHM were utilized for water level measurements and analytical samples. Twenty-two wells were installed by OHM in 1996 and 20 were CERCLA wells which were previously installed by others. The monitoring wells range in depth from 67 to 256 feet (one CERCLA well total depth was 495 ft.) and the piezometers from 40 to 60 ft in depth.

Section 1
Introduction

This *Technical Memorandum, Groundwater Monitoring Report, Petroleum Storage Facilities at Various Locations, Marine Corps Air Station, El Toro* was prepared by OHM Remediation Services Corp. (OHM). Groundwater monitoring and reporting activities were conducted under Southwest Division Naval Facilities Engineering Command (SWDIV) Remedial Action Contract No. N68711-93-D-1459, Delivery Order (DO) 50.

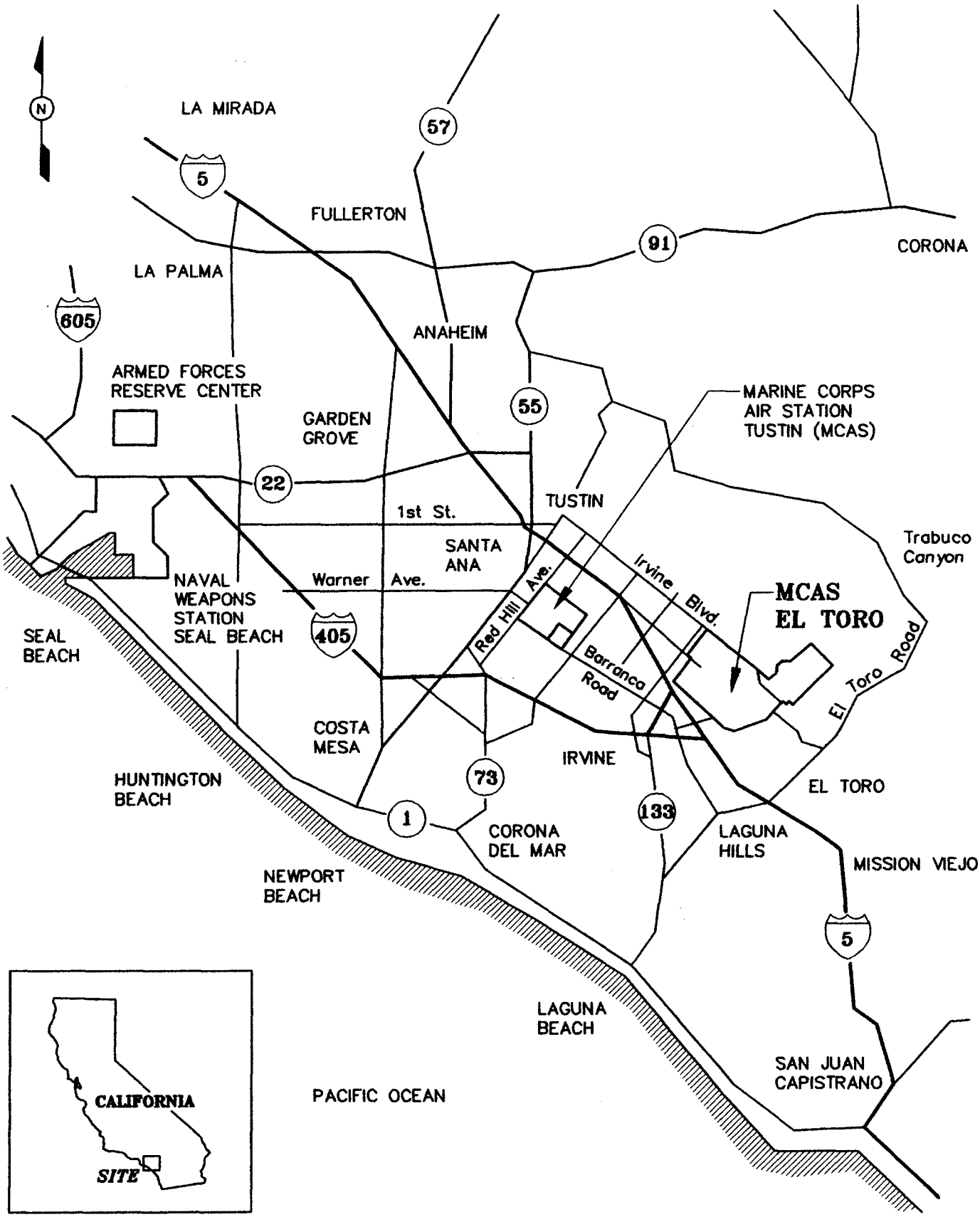
This memorandum presents groundwater elevations and groundwater quality data collected from December 1996 through February 1997 at Tank Farms 1, 2, 3, 4, 5, 6, 555, and Former Underground Storage Tank (UST) Sites 390A and 390B (USTs 390 A and B). The well network for the sampling program included wells installed by OHM and selected wells from the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Program. The CERCLA wells were included due to their proximity to petroleum storage sites and utilization as an upgradient or downgradient data control point.

1.1 Site Description

Marine Corps Air Station (MCAS) El Toro is located approximately 45 miles southeast of Los Angeles in Orange County, California, 1 mile north of the intersection of Interstate 5 (Santa Ana Freeway) and Interstate 405 (San Diego Freeway) (Figure 1-1, Site Vicinity Map). The Town of Lake Forest is less than 2 miles southeast; East Irvine is approximately 1 mile to the northwest. The Third Marine Aircraft Wing (3rd MAW) and support operations are based at MCAS El Toro.

The station covers approximately 4,700 acres. Figure 1-2, Site Map - Monitoring Well Location and Petroleum Storage Facilities, presents a regional map of the station and identifies the subject tank farms, USTs 390 A and B and the monitoring well locations.

MCAS El Toro is located on the southeastern edge of the Tustin Plain, which slopes gently to the west-southwest. MCAS crosses the Tustin Plain and extends eastward into the Santa Ana Mountains. Land surface elevations in the site vicinity are approximately 215 feet above mean sea level (msl) in the western corner, and rise to approximately 800 feet above msl approaching the eastern corner. The topography across MCAS is relatively flat.



OHM Remediation Services Corp. A Subsidiary of OHM Corporation SAN DIEGO, CA	DRAWN BY B. COHEN	DATE 09/12/97	SITE VICINITY MAP
	CHECKED BY	DATE 9/25/97	
	APPROVED BY	DATE 9/25/97	MARINE CORPS AIR STATION EL TORO, CALIFORNIA
PROJECT SWDIV	PROJECT MANAGER	DATE	

AUTOCAD FILE No.	PLOT SCALE	SHEET	OF	SCALE	DOCUMENT CONTROL No.	OHM PROJECT No.	FIGURE No.	REVISION
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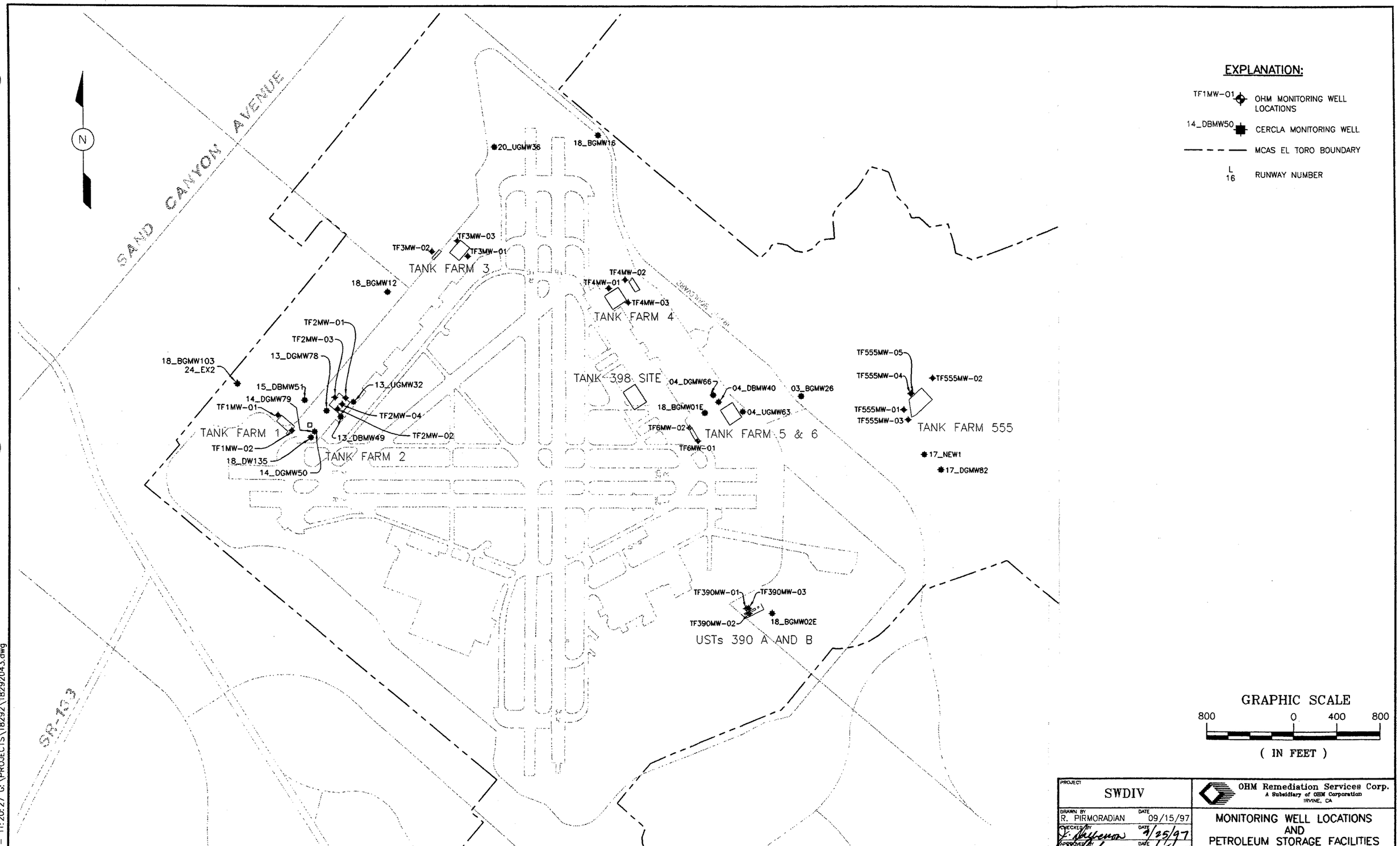

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MONITORING WELL LOCATIONS
AND
PETROLEUM STORAGE FACILITIES
SITE MAP
MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

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Section 2
Groundwater Monitoring Program

The objectives of the groundwater sampling program are as follows:

- Monitor and document the organic and inorganic groundwater quality at various petroleum storage sites.
- Monitor and document the groundwater elevations at the various petroleum storage sites.
- Evaluate trends in groundwater quality and recommend adjustments to the sampling program.

The purpose of this technical memorandum is to present the groundwater field monitoring results and the analytical data which was collected from the December 1996 sampling event for the MCAS El Toro UST Program. This sampling program utilized a network of conventional monitoring wells that included a total of 22 monitoring wells and two piezometers drilled and installed by OHM (OHM wells) between May 1996 and December 1996, and a group of 20 previously installed monitoring wells (CERCLA wells) constructed for the Phase I and II Remedial Investigation for the MCAS El Toro (SWDIV, 1993). Table 2-1, Groundwater Monitoring Wells and Piezometers for Various Tanks and Tank Farms — UST Drilling and Monitoring Program MCAS El Toro, presents well completion and as-built data for the wells and piezometers installed by OHM and others. The monitoring well locations at each specific tank farm are presented in figures found in Sections 5 through 8 of this report.

2.1 Background

The monitoring network for the UST program is in part the result of the verification drilling activities associated with existing and former tank farm locations in addition to USTs 390 A and B at MCAS El Toro. Separate groundwater monitoring events on a quarterly basis were authorized by SWDIV for the purpose of collecting analytical data over a period of time to establish analytical trends. Prior to the first sampling event, OHM proposed to SWDIV that specific CERCLA wells be included in the monitoring well network to enhance the data evaluation at each site and reduce the need for additional monitoring wells. The specified CERCLA wells included in Table 2-1 were approved by SWDIV for water level measurements and analytical testing.

Table 2-1
Groundwater Monitoring Wells and Piezometers for Various Tanks and Tank Farms
UST Drilling and Monitoring Program MCAS El Toro

		Construction Details by Depth (details per well completion logs and reported in feet unless otherwise noted)												Reference Point Elevation[a]			
Well ID Number	OHM Monitoring Wells	Date Installed	Total depth feet (bgs)	Brorehole Diameter (inches)	Screen Diameter (inches)	Screen Slot Size	Screen Material	Screened Interval feet (bgs)	Blank Casing feet (bgs)	Blank Casing Material	Sand Pack (bgs)	Bentonite Seal#	Grout/ Concrete Seal	NAD 83 Northing	NAD 83 Easting	Casing	Surface
TANK FARM 1																	
TF1MW-01	•	7/16/96	150.0	11.5	4	0.020	SS	109.5-149.3	0-109.5	LCS	106.25-150	100.8-106.25	0-100.8	2192380.97	6106834.89	259.42	259.91
TF1MW-02	•	7/18/96	150.5	11.5	4	0.020	SS	110-150	0-110	LCS	106.8-150.5	102.33-106.8	0-102.33	2192090.43	6107082.40	263.68	264.03
18_DW135								115-135						2191968.23	6107437.92	268.32	269.00
14_DBMW50					4	0.020	SS	120-160	0-120	SCH 40 PVC				2192079.40	6107506.38	270.84	270.28
14_DGMW79					4	0.020	SS	118-158	0-118	SCH 40 PVC				2192200.06	6107417.21	268.08	268.99
18_BGMW103														2192973.52	6106078.95	252.15	251.22
24_EX2		4/6/96	215.0		6	0.020	SS	109-211.5	0-109	SCH 40 PVC	102.2-215	100.0-102.2	0-100	2192961.68	6106086.45	252.58	251.34
TANK FARM 2																	
TF2MW-01	•	5/9/96	163.5	11.5	6	0.020	SS	120-160	0-120	LCS	116.5-163.5	112.5-116.5	0-112.5	2192698.99	6108101.39	283.52	283.97
TF2MW-02	•	5/14/96	158.0	11.5	6	0.020	SS	115-155.33	0-115.3	LCS	112-158	108.25-112	0-108.25	2192500.14	6107942.65	278.80	279.53
TF2MW-03	•	5/16/96	162.0	11.5	6	0.020	SS	120-160	0-120	LCS	116-162	109.5-116	0-109.5	2192705.90	6107907.81	279.67	280.32
TF2MW-04	•	5/22/96	161.2	11.5	6	0.020	SS	120-160	0-120	LCS	116.5-161.2	111.5-116.5	0-111.5	2192586.34	6108025.82	280.88	281.42
13_UGMW32					4	0.020	SS	144-184	0-144	SCH 40 PVC				2192630.62	6108238.02	285.25	285.40
13_DBMW49					4	0.020	SS	142-182	0-142	SCH 40 PVC				2192534.44	6107997.88	280.67	280.04
13_DGMW78					4	0.020	SS	127-167	0-127	SCH 40 PVC				2192465.47	6107731.67	276.16	276.42
15_DBMW51					4	0.020	SS	125-165	0-125					2192664.04	6107322.15	269.45	269.79
TANK FARM 3																	
TF3MW-01	•	7/31/96	211.0	11	4	0.020	SS	169.5-209.5	0-169.5	LCS	163-211	156-163	0-156	2195332.55	6110359.68	322.86	333.45
TF3MW-02	•	8/6/96	200.0	11	4	0.020	SS	159-199	0-159	LCS	150-200	143-150	0-143	2195422.13	6109697.16	318.39	319.36
TF3MW-03	•	8/9/96	207.5	11	4	0.020	SS	165.5-205.5	0-165.5	LCS	159.5-207.5	153-159.5	0-153	2195616.10	6110170.46	329.13	329.92
TANK FARM 4																	
TF4MW-01	•	9/6/96	247.0	10	4	0.020	SS	201-241	0-201	LCS	197.4-247	192-197.4	0-192	2194744.18	6112968.30	378.84	379.29
TF4MW-02	•	9/11/96	253.0	10	4	0.020	SS	207-247	0-207	LCS	202.3-253	195.8-202.3	0-195.8	2194900.25	6113277.27	384.70	385.27
TF4MW-03	•	8/6/96	243.0	13	6	0.020	SS	202.5-242.5	0-202.5	LCS	197-243	192-197	0-192	2194479.50	6113332.33	384.07	384.53
18_BGMW12					4	0.020	SS	165-205	0-165	SCH 40 PVC				2194672.84	6108873.29	304.48	304.89
18_BGMW16					5	0.020	SS	223-263	0-223	SCH 40 PVC				2197586.29	6112784.73	376.58	375.82
20_UGMW36					4	0.020	SS	183-223	0-183	SCH 40 PVC				2197362.81	6110862.10	338.70	338.12
TANK FARM 6																	
TF6MW-01	•	8/20/96	225.0	11	4	0.020	SS	184.5-224.5	0-184.5	LCS	180-225	173.5-180	0-173.5	2191894.56	6114631.01	383.57	383.89
TF6MW-02	•	9/5/96	230.0	11	4	0.020	SS	190-230	0-190	LCS	184-230	179-184	0-179	2192141.55	6114465.03	384.65	384.93
04_DGMW66					5	0.020	SS	250-290	0-250	SCH 80 PVC				2192752.64	6114911.10	401.57	401.11
18_BGMW01E					4	0.020	SS	205-225	0-205	SCH 40 PVC				2192417.12	6114757.49	392.08	391.44
04_UGMW63					5	0.020	SS	235-275	0-235	SCH 80 PVC				2192442.20	6115456.81	404.13	403.42
04_DBMW40					5	0.020	SS	220-260	0-220	SCH 80 PVC				2192622.68	6115011.43	400.46	400.01
TANK FARM 555																	
TF555MW-01	•	7/23/96	223.0	10	4	0.020	SS	179-219	0-179	LCS	174-223	168-174	0-168	2192482.03	6118439.11	424.12	424.49
TF555MW-02	•	7/25/96	100.0	8.75	4	0.020	SS	25-60	0-25	LCS	22-61	18.1-22.2	0-18.1	2193073.06	6118965.34	458.24	458.48
TF555MW-03	•	8/2/96	221.0	8.75	4	0.020	SS	180-220	0-180	LCS	178-221	174.3-178	0-174.3	2192295.65	6118517.72	422.91	423.37
TF555MW-04	•	8/7/96	120.0	11	4	0.020	SS	89.5-109.5	0-89.5	LCS	84.5-112	80-84.5	0-80	2192760.82	6118568.62	437.01	437.39
TF555MW-05	•	8/14/96	67.0	11	4	0.020	SS	49.5-64.5	0-49.5	LCS	48-64.5	43.5-48	0-43.5	2192791.63	6118575.78	437.63	437.99
TF555PZ-01	•	7/17/96	60.0	9	2	0.020	SCH 40 PVC	25-50	0-25	SCH 40 PVC	22-52	18-22	0-18	2192857.12	6118659.77	441.99	442.62
TF555PZ-02	•	7/17/96	60.0	9	2	0.020	SCH 40 PVC	25-50	0-25	SCH 40 PVC	22.5-55	17-22.5	0-17	2192956.20	6118658.78	445.12	444.55
TF555PZ-03	•	8/13/96	40.0	9	2	0.020	SCH 40 PVC	25-40	0-25	SCH 40 PVC	21-40	16.5-21	0-16.5	2192798.58	6118581.25	438.02	438.33
17_NEW1								186-226						2191650.59	6118812.71	431.34	431.36
03_UGMW26					5	0.020	SS	230-270	0-230	SCH 80 PVC				2192733.25	6116532.63	419.82	419.39
17_DGMW82					5	0.020	SS	235-255	0-235	SCH 80 PVC				2191368.28	6119115.93	442.50	441.69
UST SITE 390 A&B																	
T390MW-01	•	7/23/96	201.0	11	4	0.020	SS	158-198	0-158	LCS	153-201	146-153	0-146	2188781.84	6115522.68	379.80	380.20
T390MW-02	•	9/9/96	192.0	11	4	0.020	SS	151.5-191.5	0-151.5	LCS	145-192	139-145	0-139	2188690.09	6115571.36	380.41	380.87
T390MW-03	•	9/18/96	191.0	11	4	0.020	SS	149-189	0-149	LCS	144.5-191	139-144 5	0-139	2188787.20	6115560.11	380.85	381.21
18_BGMW02E					5	0.020	SS	198-233	0-198	SCH 80 PVC				2188691.86	6115992.03	391.62	390.93

Explanation
(a) - Reference point northing, easting, and elevation data collected by Towill Surveying of Tustin, California.
NAD 83 - Northing and easting coordinate system for Marine Corps Air Station El Toro.
SS - stainless steel
SCH 40 PVC - schedule 40 polyvinyl casing
LCS - low carbon steel
bgs - below ground surface
ID - Identification
** - Datum mean sea level (msl)*
 # - Bentonite seal may include #0/30, #1/20, or #60 transition sand. See well construction logs for details.
PZ-01 - Piezometer
SVE-05 - Soil vapor extraction well
NA - Not available
Non OHM wells were referenced from:

Marine Corps Air Station El Toro, El Toro, California, Installation Restoration Program,
Phase I Remedial Investigation Draft Technical Memorandum, " May 1993, Volume II
Prepared by Southwest Naval Facilities Engineering Command with Jacobs Engineering Corp. Inc.

Draft Phase II Remedial Investigation Report Operable Unit 2B-Site 1"
Marine Corps Air Station El Toro, California, Volume III of V Appendices F-O

2.2 Groundwater Level Measurements

Depth to water measurements presented in this report were collected by OHM personnel on December 13 and 16, 1996 and converted to groundwater elevation data. This data was utilized to evaluate the hydraulic gradient and the groundwater flow conditions at the various tank farms and one UST site at MCAS El Toro. Table 2-2, Water Level Measurements and Groundwater Elevations, presents the groundwater elevations for the subject wells and piezometers.

Specific site maps utilized for the presentation of the groundwater surface contours were constructed and presented in Sections 5 through 8. These site specific contours were then transferred to a regional well location site map and utilized to portray the approximate regional gradient at the El Toro Site (see Figure 2-1, Regional Groundwater Contour Map — December 13 and 16, 1996).

Prior to collecting groundwater level measurements, each sampling location, including the CERCLA wells, was surveyed by a California-licensed well surveyor, subcontracted by OHM. Surveying points included Northing and Easting coordinates (NAD 83 and NAD 27), top of casing, and ground surface elevations, based on mean sea level. Well survey information has been presented on site figures presented in Sections 5 through 8. Survey data is also presented in Table 2-1.

For the sampling events presented in this report, the depths to water were measured from either the top of casing, unless otherwise indicated, and then recorded in the Depth to Water Logs included as Appendix A of this report. The measurements were collected with a Solinst® water level meter with an accuracy of ± 0.01 feet. The water level meter was decontaminated between each well with a solution of Liquinox ™ and distilled water followed by two distilled water rinses.

2.3 Groundwater Sample Collection

During this sampling event, groundwater samples were collected from a combined total of 42 OHM monitoring wells and CERCLA wells. Samples were collected at the following Tank Farms and UST Site and presented in this report:

- Tank Farm 1 - Two OHM and four CERCLA wells
- Tank Farm 2 - Four OHM wells and four CERCLA wells
- Tank Farm 3 - Three OHM wells
- Tank Farm 4 - Three OHM and two CERCLA wells

Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
TF1MW-01	10-Sep-96	109.5-149.5	110.41	259.42	259.91	**149.01**
	13-Dec-96		110.22	259.42	259.91	**149.20**
	14-Jan-97		110.00	259.42	259.91	**149.42**
TF1MW-02	23-Jul-96	110 -150	112.90	263.68	264.03	**150.78**
	11-Sep-96		113.20	263.68	264.03	**150.48**
	13-Dec-96		113.10	263.68	264.03	**150.58**
	14-Jan-97		112.87	263.68	264.03	**150.81**
18_DW135	6-Sep-96	115-135	116.85	268.32	269.00	**151.47**
	13-Dec-96		117.00	268.32	269.00	**151.32**
	14-Jan-97		116.75	268.32	269.00	**151.57**
14_DBMW50	6-Sep-96	120-160	119.45	270.84	270.28	**151.39**
	13-Dec-96		119.60	270.84	270.28	**151.24**
	10-Jan-97		118.50	270.84	270.28	**152.34**
14_DGMW79	13-Dec-96	118-158	118.15	268.80	268.99	**150.65**
18_BGMW103	10-Sep-96	395-495	125.30	252.15	251.22	**126.85**
	13-Dec-96		107.05	252.15	251.22	**145.10**
	14-Jan-97		106.90	252.15	251.22	**145.25**
24_EX2	9-Sep-96	109.5-211.5	106.68	252.58	251.34	**145.90**
	13-Dec-96		105.94	252.58	251.34	**146.64**
	13-Jan-97		105.20	252.58	251.34	**147.38**
TF2MW-01	14-May-96	120-160	131.78	283.52	283.97	**151.74**
	29-Aug-96		132.37	283.52	283.97	**151.15**
	4-Sep-96		132.37	283.52	283.97	**151.15**
	13-Dec-96		132.60	283.52	283.97	**150.92**
	23-Dec-96		132.67	283.52	283.97	**150.85**
	17-Jan-97		110.00	283.52	283.97	**173.52**
	28-Jan-97		127.24	283.52	283.97	**156.28**
TF2MW-02	16-May-96	115-155	127.75	278.80	279.53	**151.05**
	30-Aug-96		127.35	278.80	279.53	**151.45**
	13-Dec-96		127.75	278.80	279.53	**151.05**
	28-Jan-97		127.24	278.80	279.53	**151.56**
	31-Dec-96		127.60	278.80	279.53	**151.20**
TF2MW-03	20-May-96	120-160	128.20	279.67	280.32	**151.47**
	13-Dec-96		129.44	279.67	280.32	**150.23**
	24-Dec-96		129.15	279.67	280.32	**150.52**
	10-Jan-97		128.80	279.67	280.32	**150.87**

Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
TF2MW-04	24-May-96	120-160	129.15	280.88	281.42	**151.73**
	30-Aug-96		132.32	280.88	281.42	**148.56**
	13-Dec-96		129.65	280.88	281.42	**151.23**
	13-Jan-97		129.20	280.88	281.42	**151.68**
13_UGMW32	3-Sep-96	144-184	133.88	285.25	285.40	**151.37**
GS	13-Dec-96		133.73	285.25	285.40	**151.52**
	27-Dec-96		133.36	285.25	285.40	**151.89**
13_DBMW49	4-Sep-96	142-182	129.43	280.67	280.04	**151.24**
	13-Dec-96		128.58	280.67	280.04	**152.09**
	27-Dec-96		128.38	280.67	280.04	**152.29**
13_DGMW78	4-Sep-96	127-167	125.00	276.16	276.42	**151.16**
GS	13-Dec-96		125.78	276.16	276.42	**150.38**
	10-Jan-97		125.06	276.16	276.42	**151.10**
15_DBMW51	5-Sep-96	125-165	119.80	269.45	269.79	**149.65**
	13-Dec-96		119.92	269.45	269.79	**149.53**
	20-Dec-96		119.68	269.45	269.79	**149.77**
TF3MW-01	31-Oct-96	169.5-209.5	178.47	332.86	333.45	**154.39**
	5-Nov-96		178.45	332.86	333.45	**154.41**
	13-Dec-96		177.88	332.86	333.45	**154.98**
	20-Jan-97		177.41	332.86	333.45	**155.45**
TF3MW-02	13-Aug-96	159-199	165.95	318.38	319.36	**152.43**
	12-Sep-96		166.10	318.38	319.36	**152.28**
	13-Dec-96		166.02	318.38	319.36	**152.36**
	15-Jan-97		165.70	318.38	319.36	**152.68**
TF3MW-03	27-Aug-96	165.5-205.5	193.50	329.13	329.92	**135.63**
	18-Sep-96		175.60	329.13	329.92	**153.53**
	13-Dec-96		175.53	329.13	329.92	**153.60**
	15-Jan-97		175.33	329.13	329.92	**153.80**
	16-Jan-97		175.33	329.13	329.92	**153.80**
TF4MW-01	9-Sep-96	201-241	206.04	378.84	379.29	**172.80**
	27-Sep-96		205.91	378.84	379.29	**172.93**
	16-Dec-96		205.62	378.84	379.29	**173.22**
	31-Dec-96		205.29	378.84	379.29	**173.55**
TF4MW-02	16-Sep-96	201-241	210.80	384.97	385.27	**174.17**
	4-Oct-96		208.28	384.97	385.27	**176.69**
	16-Dec-96		209.20	384.97	385.27	**175.77**
	31-Dec-96		208.84	384.97	385.27	**176.13**

Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
TF4MW-03	3-Sep-96	202.5-242.5	208.42	384.07	384.53	**175.65**
	3-Oct-96		209.64	384.07	384.53	**174.43**
	16-Dec-96		208.00	384.07	384.53	**176.07**
	6-Jan-97		207.71	384.07	384.53	**176.36**
18_BGMW12	16-Dec-96	165-205	154.54	304.48	304.89	**149.94**
18_BGMW16	2-Oct-96	223-263	216.18	376.58	375.82	**160.40**
	16-Dec-96		216.04	376.58	375.82	**160.54**
	30-Dec-96		215.60	376.58	375.82	**160.98**
20_UGMW36	7-Oct-96	183-223	184.76	338.70	338.12	**153.94**
	16-Dec-96		185.52	338.70	338.12	**153.18**
	30-Dec-96		185.11	338.70	338.12	**153.59**
TF6MW-01	27-Aug-96	184.5-204.5	193.50	383.57	383.89	**190.07**
	16-Sep-96		192.49	383.57	383.89	**191.08**
	13-Dec-96		191.92	383.57	383.89	**191.65**
	16-Jan-97		191.61	383.57	383.89	**191.96**
TF6MW-02	9-Sep-96	190 - 230	196.82	384.65	384.93	**187.83**
	16-Sep-96		196.65	384.65	384.93	**188.00**
	13-Dec-96		196.26	384.65	384.93	**188.39**
	20-Jan-97		196.25	384.65	384.93	**188.40**
04_DGMW66	16-Sep-96	250-290	211.90	401.57	401.11	**189.67**
	13-Dec-96		210.56	401.57	401.11	**191.01**
	17-Jan-97		210.08	401.57	401.11	**191.49**
18_BGMW01E	13-Sep-96	205-225	203.65	392.08	391.44	**188.43**
	13-Dec-96		203.26	392.08	391.44	**188.82**
	17-Jan-97		203.10	392.08	391.44	**188.98**
04_UGMW63	13-Sep-96	235-275	210.40	404.13	403.42	**193.73**
	13-Dec-96		209.68	404.13	403.42	**194.45**
	17-Jan-97		209.10	404.13	403.42	**195.03**
04_DGMW40	13-Sep-96	220-260	210.30	400.46	400.01	**190.16**
	13-Dec-96		209.50	400.46	400.01	**190.96**
	16-Jan-97		208.90	400.46	400.01	**191.56**
TF555MW-01	7-Aug-96	179-219	187.44	424.12	424.49	**236.68**
	24-Sep-96		187.04	424.12	424.49	**237.08**
GS	13-Dec-96		186.89	424.12	424.49	**237.23**
	4-Feb-97		185.60	424.12	424.49	**238.52**

Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

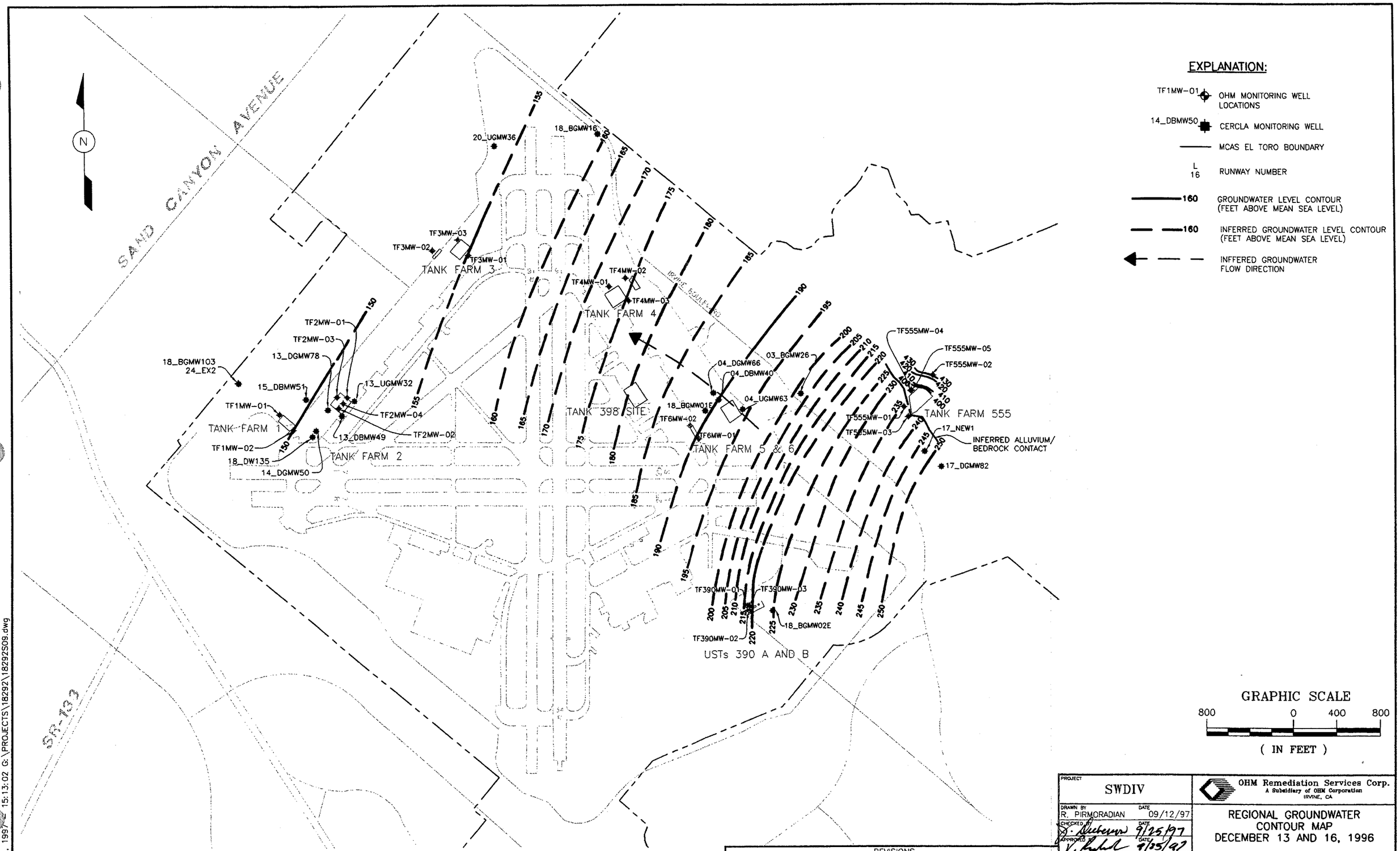
Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
TF555MW-02	6-Aug-96	25-60	25.15	458.24	458.48	**433.09**
	25-Sep-96		25.12	458.24	458.48	**433.12**
	13-Dec-96		25.15	458.24	458.48	**433.09**
	29-Jan-97		24.90	458.24	458.48	**433.34**
TF555MW-03	7-Aug-96	180-220	184.50	422.91	423.37	**238.41**
	24-Sep-96		183.95	422.91	423.37	**238.96**
GS	13-Dec-96		183.33	422.91	423.37	**239.58**
	4-Feb-97		182.50	422.91	423.37	**240.41**
TF555MW-04	12-Aug-96	89.6-109.6	23.58	437.01	437.39	**413.43**
	26-Sep-96		23.82	437.01	437.39	**413.19**
GS	13-Dec-96		24.09	437.01	437.39	**412.92**
	22-Jan-97		23.61	437.01	437.39	**413.40**
TF555MW-05	28-Aug-96	49.5-64.5	42.55	437.63	437.99	**395.08**
	25-Sep-96		42.56	437.63	437.99	**395.07**
	13-Dec-96		42.58	437.63	437.99	**395.05**
	22-Jan-97		42.42	437.63	437.99	**395.22**
TF555PZ-01	24-Oct-96	25-50	25.74	441.99	442.62	**416.25**
	13-Dec-96		25.89	441.99	442.62	**416.10**
	22-Jan-97		25.70	441.99	442.62	**416.29**
TF555PZ-02	24-Oct-96	25-50	29.22	445.12	445.12	**415.90**
	13-Dec-96		29.56	445.12	445.12	**415.56**
	22-Jan-97		29.40	445.12	445.12	**415.72**
TF555PZ-03	27-Sep-96	25-40	dry	445.12	438.02	**dry**
	13-Dec-96		dry	445.12	438.02	**dry**
17_NEW1	20-Sep-96	186-226	184.70	431.95	431.36	**247.25**
	13-Dec-96		183.69	431.95	431.36	**248.26**
	31-Jan-97		182.90	431.95	431.36	**249.05**
03_BGMW26	23-Sep-96	230-270	217.85	419.82	419.39	**201.97**
GS	13-Dec-96		216.79	419.82	419.39	**203.03**
	7-Feb-97		216.38	419.82	419.39	**203.44**
17_DGMW82	23-Sep-96	235-255	183.10	442.50	441.69	**259.40**
	13-Dec-96		185.67	442.50	441.69	**256.83**
	30-Jan-97		182.25	442.50	441.69	**260.25**
T390MW-01	5-Aug-96	158-198	160.28	379.80	380.20	**219.52**
	19-Sep-96		159.90	379.80	380.20	**219.90**
	26-Sep-96		159.70	379.80	380.20	**220.10**
	27-Sep-96		159.79	379.80	380.20	**220.01**
	13-Dec-96		159.06	379.80	380.20	**220.74**
	21-Jan-97		159.54	379.80	380.20	**220.26**

Table 2-2
Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Screen Interval (feet bgs)	Depth to Water (feet bgs)	TOC Elevation (feet msl)	Ground Surface Elevation (feet msl)	Water Elevation (feet msl)
T390MW-02	16-Sep-96	151.5-191.5	160.00	380.41	380.87	**220.41**
	19-Sep-96		159.73	380.41	380.87	**220.68**
	26-Sep-96		159.54	380.41	380.87	**220.87**
	27-Sep-96		159.61	380.41	380.87	**220.80**
	13-Dec-96		158.85	380.41	380.87	**221.56**
T390MW-03	18-Sep-96	149-189	161.40	380.85	381.21	**219.45**
	19-Sep-96		160.70	380.85	381.21	**220.15**
	26-Sep-96		160.40	380.85	381.21	**220.45**
	27-Sep-96		160.46	380.85	381.21	**220.39**
	13-Dec-96		159.75	380.85	381.21	**221.10**
18_BGMW02E	19-Sep-96	198-223	165.61	391.72	390.97	**226.11**
	27-Sep-96		166.19	391.72	390.97	**225.53**
	13-Dec-96		165.36	391.72	390.97	**226.36**
	21-Jan-97		159.80	391.72	390.97	**231.92**

Explanation

MSL - mean sea level
NA - not available
TOC - top of casing
GS - ground surface
RP - recording point (Unless otherwise indicated, the wells were measured from the TOC. If measurements were collected from the GS, the well number column was noted with a "GS".)



REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: R. PIRMORADIAN — DATE: 09/12/97
CHECKED BY: [signature] — DATE: 9/25/97
APPROVED BY: [signature] — DATE: 9/25/97
PROJECT MANAGER — DATE

REGIONAL GROUNDWATER CONTOUR MAP
DECEMBER 13 AND 16, 1996

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

AUTOCAD FILE No. 18292S09.DWG

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=800'	1	1	SW4168	18292	FIG 2-1	0

Sept 12, 1997 15:13:02 G:\PROJECTS\18292\18292S09.dwg

- Tank Farm 5 and 6 - Two OHM and four CERCLA wells
- USTs 390 A and B - Three OHM wells and one CERCLA well
- Tank Farm 555 - Two piezometers, five OHM, and three CERCLA wells

Prior to sampling, each well was purged with a 2-inch Grundfos submersible pump. Temperature, pH, conductivity, turbidity, and dissolved oxygen were measured for each well volume purged. Each well was considered purged when approximately three well volumes were purged from the well, and the parameters were within 10 percent of the prior measurement for three consecutive readings. The well was then sampled using a Grundfos submersible pump. All groundwater samples were collected with a slow and steady flow rate between 0.5-2.5 gallons per minute. Copies of the groundwater sampling logs are provided in Appendix B, Groundwater Sampling Logs.

Groundwater samples were collected for analysis of the parameters listed in Section 4.1 and submitted to California-certified laboratories (see Section 4.0 for laboratories used for analysis). Samples for total petroleum hydrocarbons (TPH) as gasoline, benzene, toluene, ethylbenzene, and total xylenes (BTEX), volatile organic compound (VOC), and total organic compound were collected first, followed by TPH extractables, metals, and general chemistry. Sample containers were provided by the laboratories in accordance with method requirements.

The samples were uniquely identified by using a sequential numbering system for the project. Each sample was labeled, taped with a custody seal, placed in a Ziploc™ bag and then stored with a trip blank in a plastic cooler with ice. A chain-of-custody form was completed for all samples collected and the samples were picked up daily by the laboratories.

2.4 Equipment Decontamination Procedures and Equipment Rinsates

The Grundfos submersible pump, associated tubing and field meters were all decontaminated after each well was sampled. Equipment rinsates were collected prior to the sampling of each monitoring well. Six field duplicates, 22 trip blanks and 37 equipment rinsates were collected during the groundwater sampling event at the frequency specified in the *Preliminary Draft Project Plan, In Situ Treatment Systems Underground Storage Tank Program* (OHM, 1996). Decontamination and rinsate procedures are outlined below.

The following decontamination and rinsate collection procedures were followed:

1. Placed the submersible pump with discharge tubing into a 55-gallon drum containing approximately 45 gallons of a solution of Liquinox™ and water.
2. Ran the pump at approximately 5 gallons per minute until the Liquinox™ and water solution was purged through the discharge tubing and into a decontamination water holding tank.

3. Washed the outside of the discharge tubing with a solution of Liquinox™ and water.
4. Rinsed the outside of the discharge tubing with distilled water, twice.
5. Placed the submersible pump with discharge tubing into a 55-gallon drum containing approximately 45 gallons of distilled water.
6. Ran the pump at approximately 5 gallons per minute until the water solution was purged through the discharge tubing and into the decontamination water holding tank.
7. Placed the submersible pump with discharge tubing into a 5-gallon bucket containing distilled water supplied by the laboratory.
8. Ran the pump, adding distilled water to the bucket as necessary until 10 gallons of distilled water was purged through the discharge tubing and into the decontamination water holding tank.
9. Collected the equipment rinsate for laboratory analysis.

Section 3
Waste Management

The waste that was generated during the groundwater sampling field activities included purge water from the wells and personal protective equipment (PPE) such as gloves and plastics. All the purge water was collected in the 500-gallon poly tank mounted on a trailer. At the end of each day, the purge water was transferred to the 21,000-gallon baker type tank at the central treatment facility compound. Purge water was then further treated with the OHM carbon adsorption treatment system. Treated water samples were collected prior to discharge to the onsite golf course. PPE such as gloves and plastics were bagged and disposed to a Class III landfill as industrial trash based on the review of the analytical data.

Section 4
Laboratory Analysis

Samples were sent to laboratories certified by the California Environmental Laboratory Accreditation Program. They are as follows:

- Curtis & Tompkins, Ltd. (C&T), in Irvine, California and (C&T), in Berkeley, California for Tank Farms 1, 2, 3, 5 and 6
- EMAX Laboratories, Inc. (formerly known as CKY, Inc.) in Torrance, California for Tank Farms 4, 555 and Tank Site 390 A and B

4.1 Laboratory Methods

Analytical methods were performed according to SW-846 (Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods, latest revision), *California Leaking Underground Fuel Tank (CA LUFT) Manual* (California Department of Health Services, 1989) and United States Environmental Protection Agency (EPA) Methods for Chemical Analysis of Water and Wastes. Specific analyses performed for each sample is presented in analytical summary tables for each tank farm in the following sections.

The following is a list of parameters and methods performed for the December quarterly groundwater sampling event:

- BTEX and methyl tertiary-butyl ether (MTBE) by EPA Method 8020
- chloride by EPA Method 300.0 or 325.2
- metals by EPA Method 6010A
- mercury by EPA Method 7470 or 300.0
- nitrate-nitrite by EPA Method 353.2
- sulfate by EPA Method 300.0 / 375.2 /375.4
- total organic halogens by EPA Method 450.1 or 9020
- conductivity by EPA Method 120.1
- BOD by EPA Method 405.1
- COD by EPA Method 410.4
- hardness by EPA Method 130.2
- total petroleum hydrocarbons as gasoline, JP5 and/or diesel by EPA Method 8015/ CA LUFT Modified

- total phosphate by EPA Method 365.2 or 300.0
- volatile organic compounds by EPA Method 8260A

4.2 Analytical Data Evaluation

The analytical laboratory data for the water samples in this report were submitted to Laboratory Data Consultants, Inc., located in Carlsbad, California, for independent data validation. Analytical results were qualified based upon compliance with method protocols and the modified National Functional Guidelines for Organic and Inorganic Data Review (USEPA, February 1994) and laboratory-specific quality control criteria. Approximately 10 percent of the data was subjected to EPA Level D data validation. EPA Level C data validation was performed on the remaining data. Groundwater analytical data associated with this report are usable as qualified.

Section 5
Tank Farms 1 and 2

For the purpose of presenting the groundwater occurrence and analytical results, tank farms within a reasonable aerial extent have been combined in a monitoring network map. In this section, Tank Farms 1 and 2 have been combined as a monitoring well network (Figure 5-1, Tank Farms 1 and 2 — Monitoring Well Location Map). This combined map was utilized to better define groundwater gradients and flow direction, as well as identify impacted groundwater and its lateral extent.

5.1 Groundwater Occurrence

At Tank Farms 1 and 2, 15 wells were measured for depth to water on December 13, 1996, six were OHM groundwater monitoring wells (TF1MW-01, TF1MW-02, TF2MW-01, TF2MW-02, TF2MW-03, TF2MW-04), and nine were existing CERCLA wells (18_DW135, 14_DGMW50, 14_DGMW79, 18_BGMW103, 24_EX2, 13_UGMW32, 13_DBMW49, 13_DGMW78, and 15_DBMW51). Groundwater elevations across Tank Farms 1 and 2 ranged from approximately 152 feet msl to approximately 145 feet msl. The groundwater gradient across the two tank farms was approximately 0.004 feet per feet (ft/ft), and the groundwater flow direction was to the northwest (see Figure 5-2, Tank Farms 1 and 2 — Groundwater Contour Map).

5.2 Analytical Results

Section 4.1 summarizes laboratory methods for this sampling period. Tables 5-1, Analytical Summary for Tank Farm 1, and 5-2, Analytical Summary for Tank Farm 2, identify the laboratory analyses performed at Tank Farms 1 and 2. December's analytical results for Tank Farms 1 and 2 are presented in Table 5-3, Summary of Reported Concentrations for Tank Farm 1, and Table 5-4, Summary of Reported Concentrations for Tank Farm 2. Appendix C, Groundwater Analytical Results, provides the previous groundwater sampling events reported concentrations with December's analytical results for all of the laboratory methods analyzed. Figure 5-3, Tank Farms 1 and 2 TPH and BTEX Concentration Map, exhibits the TPH, BTEX, and MTBE results from the June 1996 sampling event through the December 1996 sampling event.

In addition to the above mentioned investigations, a substantial amount of work has been conducted by others at the site in conjunction with characterization of the regional VOC groundwater contamination. Those investigations have produced regional maps identifying the onsite and off-site extent of VOC impacted groundwater (Bechtel, 1996). The regional maps indicate that Tank Farm 1 and Tank Farm 2 are located within the northeast portion of the study area defined as the "interim-action area of concern." Therefore, OHM included VOC sampling at Tank Farms 1 and 2.

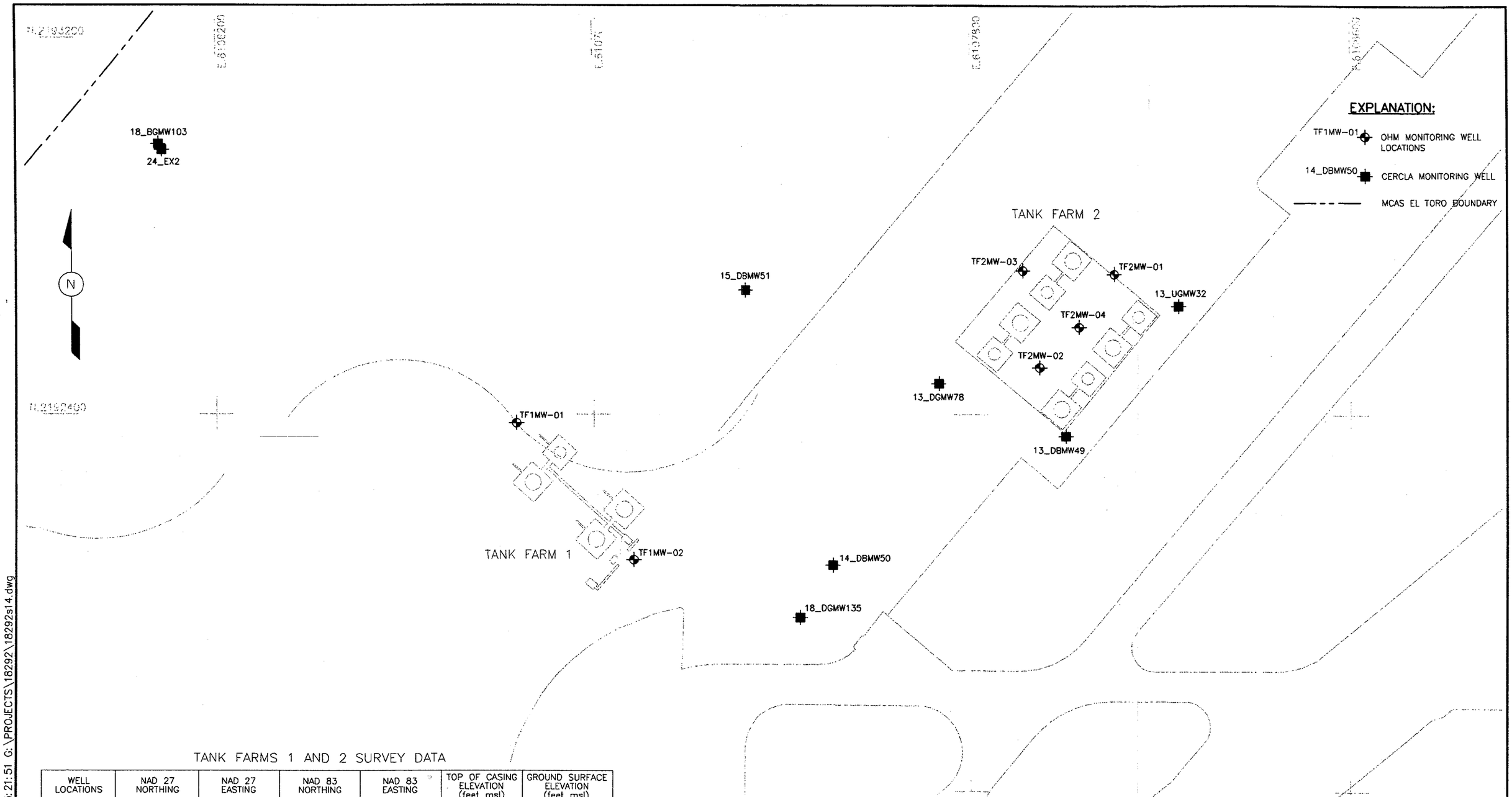
EXPLANATION OF ANALYTICAL TABLES

Analytical Methods

EPA Method 310.1 - alkalinity
EPA Method 350.1 / 350.2 / 350.3 - ammonia
EPA Method 8020 - BTEX and methyl tertiary butyl ether (MTBE)
EPA Method 300.0 - chloride
EPA Method 6010A - iron and potassium
EPA Method 353.2 - nitrate-nitrite
EPA Method 150.1 / 9045 - pH
EPA Method 300.0 / 375.2 /375.4 - sulfate
EPA Method 160.1 - total dissolved solids
SM 9215B / SM 9215C / SM 9215D - total heterotrophic plate count
EPA Method 351.2 / 351.4 - total Kjeldahl nitrogen (TKN)
EPA Method 415.1 / 415.2 - total organic compounds
EPA Method 8015/ CA LUFT Modified - total petroleum hydrocarbons as gasoline, JP5 and/or diesel
EPA Method 365.2 - total phosphorous
EPA Method 160.2 - total suspended solids
EPA Method 8260A - volatile organic compounds
EPA Method 8260A - volatile organic compounds

Abbreviations:

CA LUFT - California Leaking Underground Fuel Farms
EPA - Environmental Protection Agency
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
mg/L - milligrams per liter
µmhos/cm - micro mhmos per centimeter
cfu/ml - colony forming units per milliliter
U - not detected above or equal to the stated reported limit
J - estimated value
UJ - not detected at the estimated reporting limit
R - rejected
P - fuel pattern does not match that of laboratory standard
PJ - fuel pattern of the estimated value does not match that of the laboratory standard
NA - not analyzed



TANK FARMS 1 AND 2 SURVEY DATA

WELL LOCATIONS	NAD 27 NORTHING	NAD 27 EASTING	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)
TF1MW-01	551935.94	1545427.59	2192380.97	6106834.89	259.42	259.91
TF1MW-02	551645.40	1545675.10	2192090.43	6107082.40	263.68	264.03
18_DW135	551523.20	1546030.62	2191968.23	6107437.92	268.32	269.00
14_DBMW50	551634.37	1546099.08	2192079.40	6107506.38	270.84	270.28
18_BGMW103	552528.49	1544671.65	2192973.52	6106078.95	252.15	251.22
24_EX2	552516.64	1544679.15	2192961.68	6106086.45	252.58	251.34
TF2MW-01	552253.98	1546694.08	2192698.99	6108101.39	283.52	283.97
TF2MW-02	552055.12	1546535.34	2192500.14	6107942.65	278.80	279.53
TF2MW-03	552260.88	1546500.50	2192705.90	6107907.81	279.67	280.32
TF2MW-04	552141.32	1546618.51	2192586.34	6108025.82	280.88	281.42
13_UGMW32	552185.60	1546830.71	2192630.62	6108238.02	285.25	285.40
13_DBMW49	551909.42	1546590.57	2192534.44	6107997.88	280.67	280.04
13_DGMW78	552020.45	1546324.36	2192465.47	6107731.67	276.16	276.42
15_DBMW51	552219.01	1545914.85	2192664.04	6107322.15	269.45	269.79

msl – mean sea level

GRAPHIC SCALE

200 0 100 200

(IN FEET)

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97
CHECKED BY: [illegible] DATE: 9/25/97
APPROVED BY: [illegible] DATE: 9/22/97
PROJECT MANAGER DATE

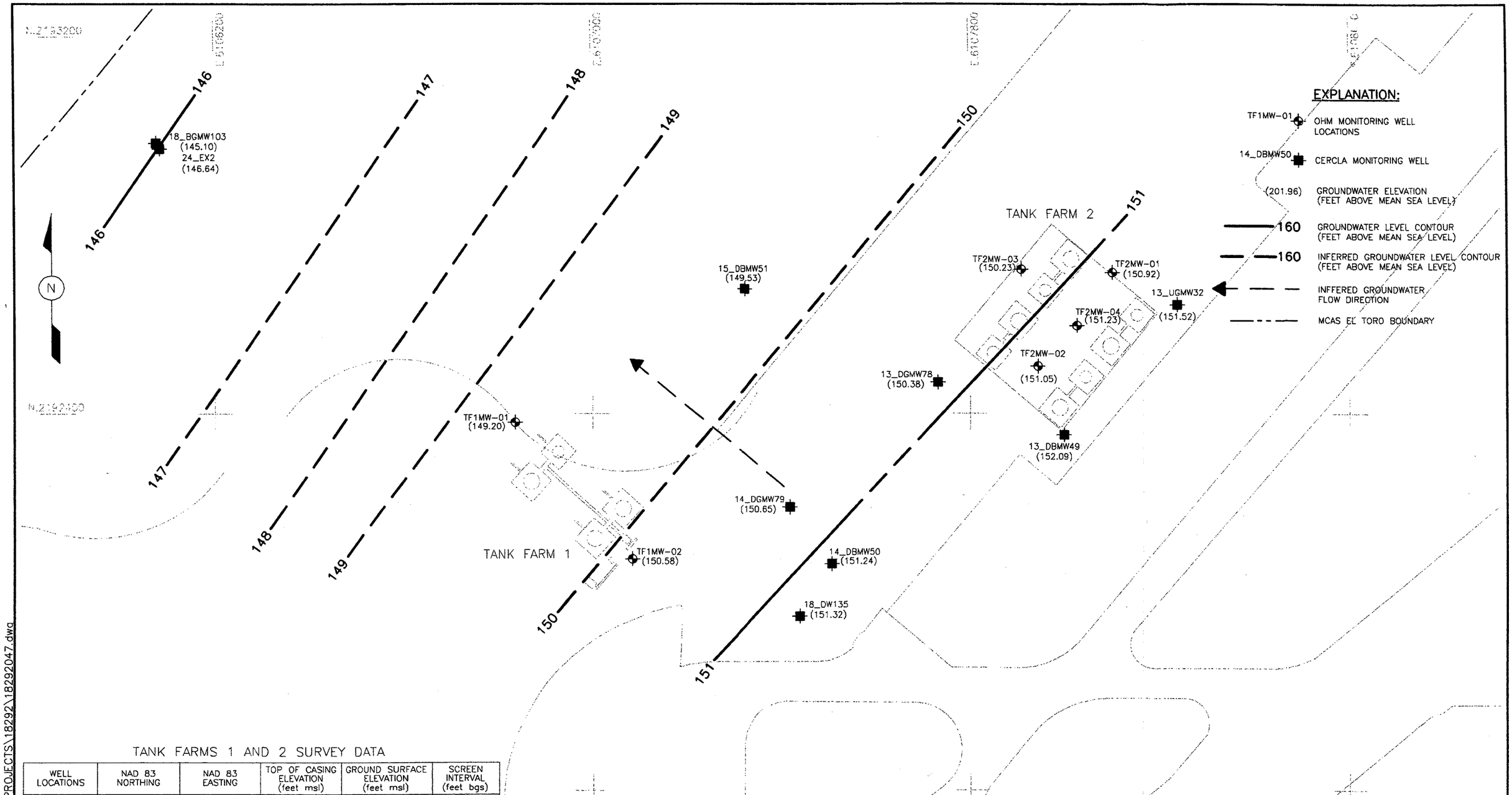
AUTOCAD FILE No. 18292S14.DWG

TANK FARMS 1 AND 2
MONITORING WELL LOCATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=200'	1	1	SW4168	18292	FIG 5-1	0

Sept 12, 1997 – 15:21:51 G:\PROJECTS\18292\18292s14.dwg



TANK FARMS 1 AND 2 SURVEY DATA

WELL LOCATIONS	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)	SCREEN INTERVAL (feet bgs)
TF1MW-02	2192090.43	6107082.40	263.68	264.03	110-150
18_DW135	2191968.23	6107437.92	268.32	269.00	115-135
14_DBMW50	2192079.40	6107506.38	270.84	270.28	120-160
18_BGMW103	2192973.52	6106078.95	252.15	251.22	NA
24_EX2	2192961.68	6106086.45	252.58	251.34	109-211.5
TF2MW-01	2192698.99	6108101.39	283.52	283.97	120-160
TF2MW-02	2192500.14	6107942.65	278.80	279.53	115-155.33
TF2MW-03	2192705.90	6107907.81	279.67	280.32	120-160
TF2MW-04	2192586.34	6108025.82	280.88	281.42	120-160
13_UGMW32	2192630.62	6108238.02	285.25	285.40	144-184
13_DBMW49	2192534.44	6107997.88	280.67	280.04	142-182
13_DGMW78	2192465.47	6107731.67	276.16	276.42	127-167
14_DGMW79	2192200.06	6107417.21	268.08	268.99	118-158
15_DBMW51	2192664.04	6107322.15	269.45	269.79	125-165

msl – mean sea level
bgs – below ground surface
NA – not available

GRAPHIC SCALE

200 0 100 200

(IN FEET)

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

CONTRACT NAME: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97
CHECKED BY: J. Dubenow DATE: 9/25/97
APPROVED BY: V. [illegible] DATE: 9/25/97
PROJECT MANAGER DATE

TANK FARMS 1 AND 2
GROUNDWATER CONTOUR MAP
DECEMBER 13, 1996

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

AUTOCAD FILE No. 18292047.DWG

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
1"=200'	1	1	SW4168	SW4168	FIG 5-2

Sept 12, 1997 – 08:58:27 G:\PROJECTS\18292\18292047.dwg

5-A

Table 5-1
Analytical Summary for Tank Farm 1

Sample Number	Sample Location	Date Sampled	EPA 1010	EPA 120.1	EPA 130.1	EPA 130.2	EPA 300.0	EPA 314A	EPA 325.2	EPA 340.2
97-TF1-W-1501	14_DBMW50	1/10/97								
97-TF1-W-1506	Equipment Rinsate	1/13/97								
97-TF1-W-1507	24_EX2	1/13/97								
97-TF1-W-1508	Equipment Rinsate	1/13/97								
97-TF1-W-1512	Equipment Rinsate	1/14/97								
97-TF1-W-1513	18_DGMW103	1/14/97								
97-TF1-W-1514	18_DGMW103	1/14/97								
97-TF1-W-1515	TF1MW-02	1/14/97		X		X			X	X
97-TF1-W-1516	Equipment Rinsate	1/14/97								
97-TF1-W-1517	TF1MW-01	1/14/97		X		X			X	X
97-TF1-W-1518	Equipment Rinsate	1/14/97								
97-TF1-W-1519	18_DMW135	1/14/97								
97-TF1-W-1520	Trip Blank	1/14/97								

Table 5-1
Analytical Summary for Tank Farm 1

Sample Number	Sample Location	Date Sampled	EPA 353.3	EPA 365.2	EPA 375.3	EPA 375.4	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A
97-TF1-W-1501	14_DBMW50	1/10/97								
97-TF1-W-1506	Equipment Rinsate	1/13/97								
97-TF1-W-1507	24_EX2	1/13/97								
97-TF1-W-1508	Equipment Rinsate	1/13/97								
97-TF1-W-1512	Equipment Rinsate	1/14/97								
97-TF1-W-1513	18_DGMW103	1/14/97								
97-TF1-W-1514	18_DGMW103	1/14/97								
97-TF1-W-1515	TF1MW-02	1/14/97	X	X	X		X	X	X	X
97-TF1-W-1516	Equipment Rinsate	1/14/97								
97-TF1-W-1517	TF1MW-01	1/14/97	X	X	X		X	X	X	X
97-TF1-W-1518	Equipment Rinsate	1/14/97								
97-TF1-W-1519	18_DMW135	1/14/97								
97-TF1-W-1520	Trip Blank	1/14/97								

Table 5-1
Analytical Summary for Tank Farm 1

Sample Number	Sample Location	Date Sampled	EPA 7470A	EPA 8020	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5	TPH-EXTRACTABLE
97-TF1-W-1501	14_DBMW50	1/10/97		X	X				X		X
97-TF1-W-1506	Equipment Rinsate	1/13/97		X					X		X
97-TF1-W-1507	24_EX2	1/13/97		X	X				X		X
97-TF1-W-1508	Equipment Rinsate	1/13/97		X					X		X
97-TF1-W-1512	Equipment Rinsate	1/14/97		X	X			X	X	X	X
97-TF1-W-1513	18_DGMW103	1/14/97		X	X			X	X	X	X
97-TF1-W-1514	18_DGMW103	1/14/97		X	X			X	X	X	X
97-TF1-W-1515	TF1MW-02	1/14/97	X	X	X			X	X	X	X
97-TF1-W-1516	Equipment Rinsate	1/14/97		X	X			X	X	X	X
97-TF1-W-1517	TF1MW-01	1/14/97	X	X	X			X	X	X	X
97-TF1-W-1518	Equipment Rinsate	1/14/97		X	X			X	X	X	X
97-TF1-W-1519	18_DMW135	1/14/97		X	X			X	X	X	X
97-TF1-W-1520	Trip Blank	1/14/97		X	X				X		

Table 5-2
Analytical Summary for Tank Farm 2

Sample Number	Sample Location	Date Sampled	EPA 1010	EPA 120.1	EPA 130.1	EPA 130.2	EPA 300.0	EPA 314A	EPA 325.2	EPA 340.2
96-TF2-W-1453	Equipment Rinsate	12/16/96								
96-TF2-W-1454	Trip Blank	12/16/96								
96-TF2-W-1455	Trip Blank	12/20/96								
96-TF2-W-1456	15_BDMW51	12/20/96								
96-TF2-W-1457	15_BDMW51	12/20/96								
96-TF2-W-1460	Equipment Rinsate	12/24/96								
96-TF2-W-1461	Trip Blank	12/24/96								
96-TF2-W-1462	TF2MW-03	12/24/96								
96-TF2-W-1467	Trip Blank	12/27/96								
96-TF2-W-1468	13_UGMW32	12/27/96								
96-TF2-W-1469	13_BDMW49	12/27/96								
96-TF2-W-1470	Trip Blank	12/31/96								
96-TF2-W-1471	Equipment Rinsate	12/31/96								
96-TF2-W-1472	TF2MW-02	12/31/96		X		X				
97-TF2-W-1497	Trip Blank	1/10/97								
97-TF2-W-1498	13_DGMW78	1/10/97								
97-TF2-W-1499	Equipment Rinsate	1/10/97								
97-TF2-W-1500	TF2MW-03	1/10/97		X		X			X	X
97-TF2-W-1503	Equipment Rinsate	1/13/97								
97-TF2-W-1504	TF2MW-04	1/13/97		X		X			X	X
97-TF2-W-1505	Source Blank	1/13/97								
97-TF2-W-1502	Trip Blank	1/13/97								
97-TF2-W-1534	TF2MW-01	1/17/97		X		X			X	X
97-TF2-W-1546	Trip Blank	1/28/97								
97-TF2-W-1547	TF2MW-02	1/28/97							X	X
97-TF2-W-1548	TF2MW-02	1/28/97		X		X			X	X
97-TF2-W-1549	Equipment Rinsate	1/28/97	X							

Table 5-2
Analytical Summary for Tank Farm 2

Sample Number	Sample Location	Date Sampled	EPA 353.3	EPA 365.2	EPA 375.3	EPA 375.4	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A
96-TF2-W-1453	Equipment Rinsate	12/16/96								
96-TF2-W-1454	Trip Blank	12/16/96								
96-TF2-W-1455	Trip Blank	12/20/96								
96-TF2-W-1456	15_BDMW51	12/20/96								
96-TF2-W-1457	15_BDMW51	12/20/96								
96-TF2-W-1460	Equipment Rinsate	12/24/96								
96-TF2-W-1461	Trip Blank	12/24/96								
96-TF2-W-1462	TF2MW-03	12/24/96								
96-TF2-W-1467	Trip Blank	12/27/96								
96-TF2-W-1468	13_UGMW32	12/27/96								
96-TF2-W-1469	13_BDMW49	12/27/96								
96-TF2-W-1470	Trip Blank	12/31/96								
96-TF2-W-1471	Equipment Rinsate	12/31/96								
96-TF2-W-1472	TF2MW-02	12/31/96					X	X		X
97-TF2-W-1497	Trip Blank	1/10/97								
97-TF2-W-1498	13_DGMW78	1/10/97								
97-TF2-W-1499	Equipment Rinsate	1/10/97								
97-TF2-W-1500	TF2MW-03	1/10/97	X	X	X		X	X	X	X
97-TF2-W-1503	Equipment Rinsate	1/13/97								
97-TF2-W-1504	TF2MW-04	1/13/97	X	X	X		X	X	X	X
97-TF2-W-1505	Source Blank	1/13/97								
97-TF2-W-1502	Trip Blank	1/13/97								
97-TF2-W-1534	TF2MW-01	1/17/97	X	X	X		X	X	X	X
97-TF2-W-1546	Trip Blank	1/28/97								
97-TF2-W-1547	TF2MW-02	1/28/97	X	X	X					
97-TF2-W-1548	TF2MW-02	1/28/97	X	X	X		X	X	X	X
97-TF2-W-1549	Equipment Rinsate	1/28/97								

Table 5-2
Analytical Summary for Tank Farm 2

Sample Number	Sample Location	Date Sampled	EPA 7470A	EPA 8020	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5
96-TF2-W-1453	Equipment Rinsate	12/16/96		X	X				X	
96-TF2-W-1454	Trip Blank	12/16/96		X	X				X	
96-TF2-W-1455	Trip Blank	12/20/96		X	X				X	
96-TF2-W-1456	15_BDMW51	12/20/96		X	X				X	
96-TF2-W-1457	15_BDMW51	12/20/96		X	X				X	
96-TF2-W-1460	Equipment Rinsate	12/24/96		X	X				X	
96-TF2-W-1461	Trip Blank	12/24/96		X	X				X	
96-TF2-W-1462	TF2MW-03	12/24/96		X	X				X	
96-TF2-W-1467	Trip Blank	12/27/96		X	X				X	
96-TF2-W-1468	13_UGMW32	12/27/96		X	X				X	
96-TF2-W-1469	13_BDMW49	12/27/96		X	X				X	
96-TF2-W-1470	Trip Blank	12/31/96		X	X				X	
96-TF2-W-1471	Equipment Rinsate	12/31/96		X	X				X	
96-TF2-W-1472	TF2MW-02	12/31/96	X	X	X				X	
97-TF2-W-1497	Trip Blank	1/10/97		X	X				X	
97-TF2-W-1498	13_DGMW78	1/10/97		X	X				X	
97-TF2-W-1499	Equipment Rinsate	1/10/97		X					X	
97-TF2-W-1500	TF2MW-03	1/10/97	X	X	X				X	
97-TF2-W-1503	Equipment Rinsate	1/13/97		X					X	
97-TF2-W-1504	TF2MW-04	1/13/97	X	X	X				X	
97-TF2-W-1505	Source Blank	1/13/97		X					X	
97-TF2-W-1502	Trip Blank	1/13/97		X	X				X	
97-TF2-W-1534	TF2MW-01	1/17/97	X						X	
97-TF2-W-1546	Trip Blank	1/28/97		X	X				X	
97-TF2-W-1547	TF2MW-02	1/28/97		X	X				X	
97-TF2-W-1548	TF2MW-02	1/28/97	X	X	X			X	X	
97-TF2-W-1549	Equipment Rinsate	1/28/97		X	X			X	X	

Table 5-2
Analytical Summary for Tank Farm 2

Sample Number	Sample Location	Date Sampled	TPH-EXTRACTABLE
96-TF2-W-1453	Equipment Rinsate	12/16/96	X
96-TF2-W-1454	Trip Blank	12/16/96	
96-TF2-W-1455	Trip Blank	12/20/96	
96-TF2-W-1456	15_BDMW51	12/20/96	X
96-TF2-W-1457	15_BDMW51	12/20/96	X
96-TF2-W-1460	Equipment Rinsate	12/24/96	X
96-TF2-W-1461	Trip Blank	12/24/96	
96-TF2-W-1462	TF2MW-03	12/24/96	X
96-TF2-W-1467	Trip Blank	12/27/96	
96-TF2-W-1468	13_UGMW32	12/27/96	X
96-TF2-W-1469	13_BDMW49	12/27/96	X
96-TF2-W-1470	Trip Blank	12/31/96	
96-TF2-W-1471	Equipment Rinsate	12/31/96	X
96-TF2-W-1472	TF2MW-02	12/31/96	X
97-TF2-W-1497	Trip Blank	1/10/97	
97-TF2-W-1498	13_DGMW78	1/10/97	X
97-TF2-W-1499	Equipment Rinsate	1/10/97	
97-TF2-W-1500	TF2MW-03	1/10/97	X
97-TF2-W-1503	Equipment Rinsate	1/13/97	
97-TF2-W-1504	TF2MW-04	1/13/97	X
97-TF2-W-1505	Source Blank	1/13/97	X
97-TF2-W-1502	Trip Blank	1/13/97	X
97-TF2-W-1534	TF2MW-01	1/17/97	
97-TF2-W-1546	Trip Blank	1/28/97	
97-TF2-W-1547	TF2MW-02	1/28/97	
97-TF2-W-1548	TF2MW-02	1/28/97	
97-TF2-W-1549	Equipment Rinsate	1/28/97	

Table 5-3
Summary of Reported Concentrations for Tank Farm 1
MCAS El Toro, Santa Ana, California

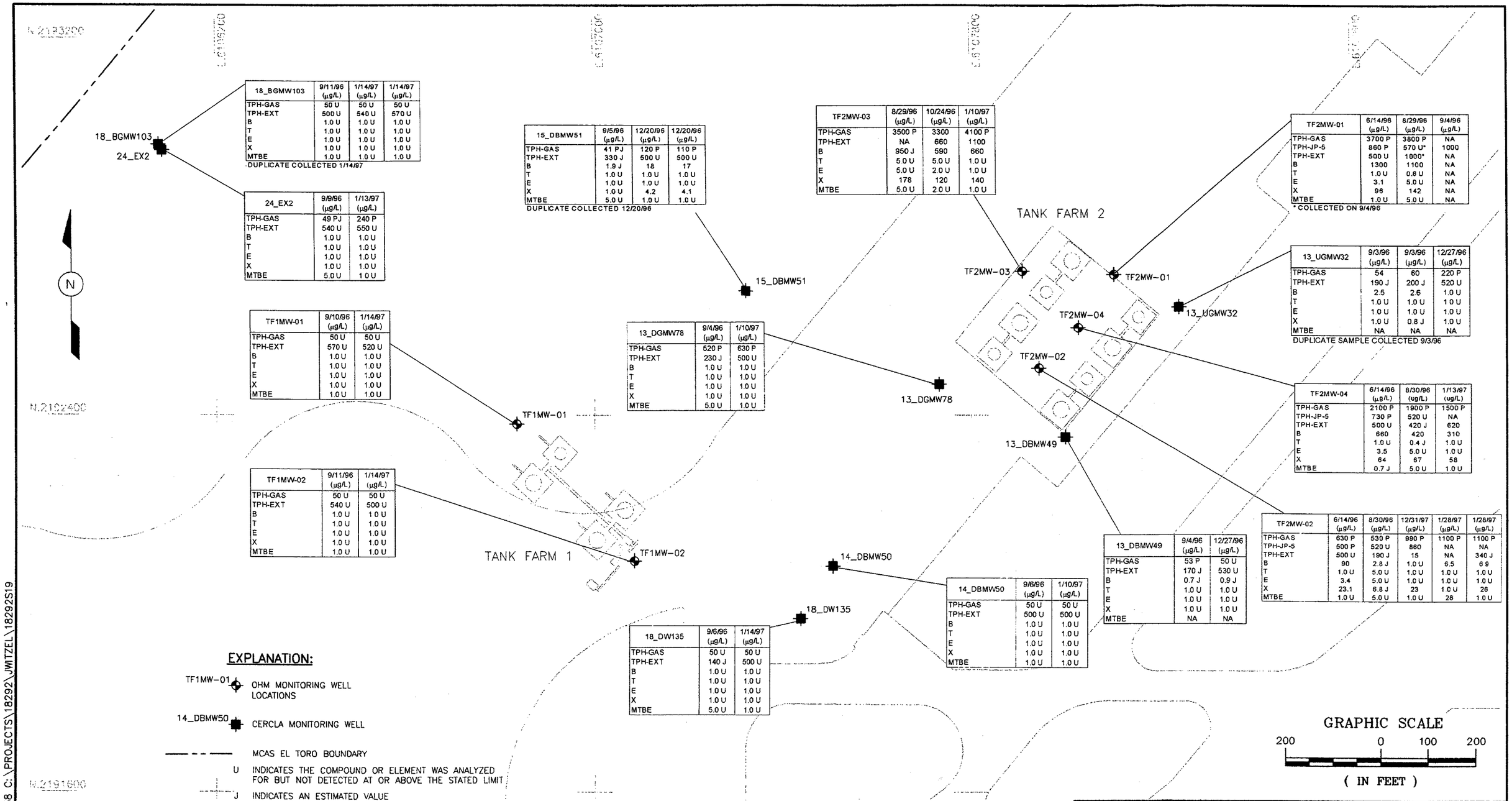
OHM Sample Number		96-TF1-W-851	97-TF1-W-1517	96-TF1-W-869	97-TF1-W-1515	96-TF1-W-835	97-TF1-W-1519	96-TF1-W-833	97-TF1-W-1501	96-TF1-W-838	97-TF1-W-1507
Sample Location		TF1MW-01	TF1MW-01	TF1MW-02	TF1MW-02	18_DW135	18_DW135	14_DBMW50	14_DBMW50	24_EX2	24_EX2
Date Collected		09/10/96	1/14/97	09/11/96	1/14/97	09/06/96	1/14/97	09/06/96	1/10/97	09/09/96	1/13/97
	Unit										
Total Petroleum Hydrocarbons (CA LUFT-8015M)											
TPH as Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	49 PJ	240 P
TPH-Extractable	µg/L	570 U	520 U	540 U	500 U	140 J	500 U	500 U	500 U	540 UJ	550 U
Volatile Organic Compounds (EPA 8260A)											
1,1-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.6 J	0.8 J
Carbon tetrachloride	µg/L	NA	19	NA	16	19	18	12	10	3.6 J	2.4 J
Chloroform	µg/L	NA	2.2 J	NA	1.5 J	1.6 J	1.5 J	3.7 J	3.3 J	0.8 J	0.8 J
Methylene chloride	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.9 J
Trichloroethene	µg/L	NA	23	NA	30	16	19	1.2 J	3.0 J	69	460
Metals (EPA 6010A)											
Barium	µg/L	NA	24	NA	14	NA	NA	NA	NA	NA	NA
Iron	µg/L	190	NA	160	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	20 U	NA	24	NA	NA	NA	NA	NA	NA
Potassium	µg/L	7400	NA	8100	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	160	NA	130	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	11	NA	10	NA	NA	NA	NA	NA	NA
General Chemistry											
Specific Conductance (EPA 120.1)	µmhos/cm	NA	12000	NA	12000	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1400	NA	1400	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.0	NA	7.2	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (Tds) (EPA 160.1)	mg/L	2400	NA	2200	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	12	NA	5.0	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	190	NA	130	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	0.21	NA	0.22	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	35	28	26	25	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.060	0.050	0.070	0.050	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	820	2000	910	2100	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	1.0	NA	1.0	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX)(EPA 450.1)	mg/L	NA	0.03	NA	0.04	NA	NA	NA	NA	NA	NA
Microbiology											
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	9000	NA	200 U	NA	NA	NA	NA	NA	NA	NA

Table 5-4
Summary of Reported Concentrations for Tank Farm 2
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF2-W-670	96-TF2-W-784	96-TF2-W-823	96-TF2-W-1459	97-TF2-W-1534	96-TF2-W-689	96-TF2-W-804	96-TF2-W-1472	97-TF2-W-1547	97-TF2-W-1548	96-TF2-W-763	96-TF2-W-1462	97-TF2-W-1500
Sample Location		TF2MW-01	TF2MW-01	TF2MW-01	TF2MW-01	TF2MW-01	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-03	TF2MW-03	TF2MW-03
Date Collected		06/14/96	08/29/96	09/04/96	12/23/96	1/17/97	06/14/96	08/30/96	12/31/96	1/28/97	1/28/97	08/29/96	12/24/96	1/10/97
	Unit													
Total Petroleum Hydrocarbons (CA LUFT-8015M)														
TPH As Gasoline	µg/L	3700 P	3800 P	NA	6700 P	NA	630 P	530 P	990 P	1100 P	1100 P	3500 P	3300 P	4100 P
TPH As JP-5	µg/L	860 P	NA	570 U	NA	NA	500 P	520 U	NA	NA	NA	NA	NA	NA
TPH-Extractable	µg/L	500 U	NA	1000	630	NA	500 U	190 J	860	NA	340 J	NA	660	1100
Volatile Aromatic Compounds (EPA 8020)														
Benzene	µg/L	1300	NA	NA	1400	NA	90	NA	1.0 U	6.5	6.4	NA	380	660
Ethylbenzene	µg/L	3.1	NA	NA	2.0 U	NA	3.4	NA	1.0 U	1.0 U	1.0 U	NA	2.0 U	1.0 U
Toluene	µg/L	1.0 U	NA	NA	1.0 J	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	5.0 U	1.0 U
Xylenes (Total)	µg/L	96	NA	NA	127	NA	23	NA	23	26	26	NA	120	140
Volatile Organic Compounds (EPA 8260A)														
1,2-Dichloroethane	µg/L	NA	23	NA	22	NA	NA	5.0 U	5.0 U	1.8 J	1.8 J	5.0 U	5.0 U	5.0 U
Acetone	µg/L	NA	10 U	NA	4.7 J	NA	NA	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U
Benzene	µg/L	NA	1100	NA	890	NA	NA	2.8 J	15	6.0	6.9	950 J	590	660
Xylenes (Total)	µg/L	NA	142	NA	118	NA	NA	6.8 J	20	21	23	178	120	130
Metals (EPA 6010A)														
Arsenic	µg/L	NA	NA	NA	NA	5.1	NA	NA	4.1 J	NA	5.0 U	NA	NA	5.0 U
Barium	µg/L	NA	NA	NA	NA	100 U	NA	NA	21	NA	22	NA	NA	22
Cadmium	µg/L	NA	NA	NA	NA	50 U	NA	NA	3.7 J	NA	4.5	NA	NA	3.7 J
Calcium	µg/L	NA	NA	NA	NA	530000	NA	NA	280000	NA	350000	NA	NA	340000
Iron	µg/L	1700 J	NA	NA	NA	3600	510 J	NA	520	NA	240	NA	NA	61
Magnesium	µg/L	NA	NA	NA	NA	310000	NA	NA	180000	NA	220000	NA	NA	330000
Manganese	µg/L	NA	NA	NA	NA	680	NA	NA	760	NA	820	NA	NA	1700
Molybdenum	µg/L	NA	NA	NA	NA	200 U	NA	NA	14 J	NA	25	NA	NA	15 J
Nickel	µg/L	NA	NA	NA	NA	200 U	NA	NA	20 J	NA	27	NA	NA	30 J
Potassium	µg/L	8800 J	NA	NA	NA	8100	6200 J	NA	5200	NA	3700	NA	NA	4600
Selenium	µg/L	NA	NA	NA	NA	29	NA	NA	96	NA	99	NA	NA	5.0 U
Sodium	µg/L	NA	NA	NA	NA	170000	NA	NA	170000	NA	170000	NA	NA	170000
Vanadium	µg/L	NA	NA	NA	NA	100 U	NA	NA	18	NA	24	NA	NA	16
Zinc	µg/L	NA	NA	NA	NA	200 U	NA	NA	34	NA	20 U	NA	NA	16
General Chemistry														
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	4100	NA	NA	3500	NA	3500	NA	NA	4200
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	2700	NA	NA	1500	NA	1500	NA	NA	2300
pH (EPA 150.1)	pH Units	7.0	NA	NA	NA	NA	6.3	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	3300	NA	NA	NA	NA	2900	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	16	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	490	NA	NA	NA	NA	450	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	290	NA	NA	NA	390	440 J	NA	NA	330 J
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	0.11	NA	NA	NA	0.26	0.24	NA	NA	0.14
Ammonia (EPA 350.1)	mg/L	0.13	NA	NA	NA	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	i3	NA	NA	NA	9.1	20	NA	NA	21	20	NA	NA	15
Phosphate (EPA 365.2)	mg/L	0.080	NA	NA	NA	0.030 U	0.070	NA	NA	0.030 U	0.030 U	NA	NA	0.040
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	1600	NA	NA	NA	1400	880	NA	NA	770	750	NA	NA	1400
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	15	NA	NA	35	NA	15 J	NA	NA	15 J
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	2.9	NA	NA	NA	NA	1.8	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	0.02 U	NA	NA	0.02
Microbiology														
Heterotrophic Plate Count (SM 9215-D)	cfu/mL	1400	NA	NA	NA	NA	2600	NA	NA	NA	NA	NA	NA	NA

Table 5-4 Cont'd
Summary of Reported Concentrations for Tank Farm 2
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF2-W-688	96-TF2-W-802	97-TF2-W-1504	96-TF2-W-816	96-TF2-W-817	96-TF2-W-1468	96-TF2-W-821	96-TF2-W-1469	96-TF2-W-822	97-TF2-W-1498	96-TF2-W-830	96-TF2-W-1456	96-TF2-W-1457
Sample Location		TF2MW-04	TF2MW-04	TF2MW-04	13_UGMW32	13_UGMW32 (Dup)	13_UGMW32	13_DBMW49	13_BDMW49	13_DGMW78	13_DGMW78	15_DBMW51	15_BDMW51	15_BDMW51
Date Collected		06/14/96	08/30/96	1/13/97	09/03/96	09/03/96	12/27/96	09/04/96	12/27/96	09/04/96	1/10/97	09/05/96	12/20/96	12/20/96
	Unit													
Total Petroleum Hydrocarbons (CA LUFT-8015M)														
TPH As Gasoline	µg/L	2100 P	1900 P	1500 P	54 P	60 P	220 P	53 P	50 U	520 P	630 P	41 PJ	120 P	110 P
TPH As JP-5	µg/L	730 P	520 U	NA	560 U	560 U	NA	500 U	NA	500 U	NA	520 U	NA	NA
TPH-Extractable	µg/L	500 U	420 J	620	190 J	200 J	520 U	170 J	530 U	230 J	500 U	330 J	500 U	500 U
Volatile Aromatic Compounds (EPA 8020)														
Benzene	µg/L	660	NA	310	2.5	2.6	1.0 U	0.7 J	0.9 J	1.0 U	1.0 U	1.9 J	18	17
Ethylbenzene	µg/L	3.5	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	0.7 J	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	64	NA	58	1.0 U	0.8 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.2	4.1
Volatile Organic Compounds (EPA 8260A)														
1,2-Dichloroethane	µg/L	NA	5.0 U	7.2	1.2 J	1.1 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	NA	10 U	10 U	10 U	10 U	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	5.8 J	5.1 J
Benzene	µg/L	NA	420	300	3.0 J	2.9 J	5.0 U	0.8 J	5.0 U	0.6 J	5.0 U	1.7 J	17	19
Xylenes (Total)	µg/L	NA	67	47	2 J	1.9 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.6 J	3.4 J	3.1 J
Metals (EPA 6010A)														
Arsenic	µg/L	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	330000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	270 J	NA	620	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	170000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	220	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	7300 J	NA	4500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	150000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry														
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	3300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	2400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	6.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	2500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	560	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	260 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	0.23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.024 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	6 J	NA	6.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.13	NA	0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	930	NA	820	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	2.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	0.03	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology														
Heterotrophic Plate Count (SM 9215-D)	cfu/mL	3500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA



18_BGMW103	9/11/96 (µg/L)	1/14/97 (µg/L)	1/14/97 (µg/L)
TPH-GAS	50 U	50 U	50 U
TPH-EXT	500 U	540 U	570 U
B	1.0 U	1.0 U	1.0 U
T	1.0 U	1.0 U	1.0 U
E	1.0 U	1.0 U	1.0 U
X	1.0 U	1.0 U	1.0 U
MTBE	1.0 U	1.0 U	1.0 U

DUPLICATE COLLECTED 1/14/97

24_EX2	9/9/96 (µg/L)	1/13/97 (µg/L)
TPH-GAS	49 PJ	240 P
TPH-EXT	540 U	550 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	5.0 U	1.0 U

15_DBMW51	9/5/96 (µg/L)	12/20/96 (µg/L)	12/20/96 (µg/L)
TPH-GAS	41 PJ	120 P	110 P
TPH-EXT	330 J	500 U	500 U
B	1.9 J	18	17
T	1.0 U	1.0 U	1.0 U
E	1.0 U	1.0 U	1.0 U
X	1.0 U	4.2	4.1
MTBE	5.0 U	1.0 U	1.0 U

DUPLICATE COLLECTED 12/20/96

TF2MW-03	8/29/96 (µg/L)	10/24/96 (µg/L)	1/10/97 (µg/L)
TPH-GAS	3500 P	3300	4100 P
TPH-EXT	NA	660	1100
B	950 J	590	660
T	5.0 U	5.0 U	1.0 U
E	5.0 U	2.0 U	1.0 U
X	178	120	140
MTBE	5.0 U	2.0 U	1.0 U

TF2MW-01	6/14/96 (µg/L)	8/29/96 (µg/L)	9/4/96 (µg/L)
TPH-GAS	3700 P	3800 P	NA
TPH-JP-5	860 P	570 U*	1000
TPH-EXT	500 U	1000*	NA
B	1300	1100	NA
T	1.0 U	0.6 U	NA
E	3.1	5.0 U	NA
X	96	142	NA
MTBE	1.0 U	5.0 U	NA

* COLLECTED ON 9/4/96

13_UGMW32	9/3/96 (µg/L)	9/3/96 (µg/L)	12/27/96 (µg/L)
TPH-GAS	54	60	220 P
TPH-EXT	190 J	200 J	520 U
B	2.5	2.6	1.0 U
T	1.0 U	1.0 U	1.0 U
E	1.0 U	1.0 U	1.0 U
X	1.0 U	0.8 J	1.0 U
MTBE	NA	NA	NA

DUPLICATE SAMPLE COLLECTED 9/3/96

TF1MW-01	9/10/96 (µg/L)	1/14/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	570 U	520 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

13_DGMW78	9/4/96 (µg/L)	1/10/97 (µg/L)
TPH-GAS	520 P	630 P
TPH-EXT	230 J	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	5.0 U	1.0 U

TF2MW-04	6/14/96 (µg/L)	8/30/96 (ug/L)	1/13/97 (ug/L)
TPH-GAS	2100 P	1900 P	1500 P
TPH-JP-5	730 P	520 U	NA
TPH-EXT	500 U	420 J	620
B	660	420	310
T	1.0 U	0.4 J	1.0 U
E	3.5	5.0 U	1.0 U
X	64	67	58
MTBE	0.7 J	5.0 U	1.0 U

TF1MW-02	9/11/96 (µg/L)	1/14/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	540 U	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF2MW-02	6/14/96 (µg/L)	8/30/96 (µg/L)	12/31/97 (µg/L)	1/28/97 (µg/L)	1/28/97 (µg/L)
TPH-GAS	630 P	530 P	990 P	1100 P	1100 P
TPH-JP-5	500 P	520 U	880	NA	NA
TPH-EXT	500 U	190 J	15	NA	340 J
B	90	2.8 J	1.0 U	6.5	6.9
T	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U
E	3.4	5.0 U	1.0 U	1.0 U	1.0 U
X	23.1	6.8 J	23	1.0 U	26
MTBE	1.0 U	5.0 U	1.0 U	26	1.0 U

13_DBMW49	9/4/96 (µg/L)	12/27/96 (µg/L)
TPH-GAS	53 P	50 U
TPH-EXT	170 J	530 U
B	0.7 J	0.9 J
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	NA	NA

14_DBMW50	9/6/96 (µg/L)	1/10/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	500 U	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

18_DW135	9/6/96 (µg/L)	1/14/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	140 J	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	5.0 U	1.0 U

EXPLANATION:

TF1MW-01 — OHM MONITORING WELL LOCATIONS

14_DBMW50 — CERCLA MONITORING WELL

MCAS EL TORO BOUNDARY

U — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED FOR BUT NOT DETECTED AT OR ABOVE THE STATED LIMIT

J — INDICATES AN ESTIMATED VALUE

R — QUALITY CONTROL INDICATES THE DATA IS NOT USABLE

UJ — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED BUT NOT DETECTED. THE SAMPLE DETECTION LIMIT IS AN ESTIMATED VALUE.

P — FUEL PATTERN DOES NOT MATCH THAT OF GASOLINE OR JP-5

B — BENZENE

T — TOLUENE

E — ETHYLBENZENE

X — XYLENES

MTBE — METHYL TERTIARY BUTYL ETHER

NA — NOT ANALYZED

µg/L — MICROGRAMS PER LITER

GRAPHIC SCALE

200 0 100 200

(IN FEET)

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: B. COHEN — DATE: 03/10/97

CHECKED BY: J. Wilkerson — DATE: 9/25/97

APPROVED BY: V. Fahn — DATE: 9/25/97

PROJECT MANAGER — DATE

AUTOCAD FILE No. 18292s19.DWG

TANK FARMS 1 AND 2
TPH AND BTEX CONCENTRATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=200'	1	1	SW4168	18292	FIG 5-3	0

RO 0:18:09:33 2/27/97 14:39:38 C:\PROJECTS\18292\JWITZEL\18292S19

Section 6
Tank Farms 3 and 4

For the purpose of presenting the groundwater occurrence and analytical results, tank farms within a reasonable aerial extent have been combined as a monitoring well network map. In this section Tank Farms 3 and 4 have been combined as a monitoring well network (see Figure 6-1, Tank Farms 3 and 4 — Monitoring Well Location Map). This combined map was utilized to better define groundwater gradients and flow direction, as well as identify impacted groundwater and its lateral extent.

6.1 Groundwater Occurrence

On December 13 and 16, 1996, eight wells were measured for depth to water at Tank Farms 3 and 4. Six of the wells were OHM monitoring wells (TF3MW-01, TF3MW-02, TF3MW-03, TF4MW-01, TF4MW-02, and TF4MW-03) and two were CERCLA wells (18_BGMW16, and 20_UGMW36).

Groundwater elevations across the two tank farms ranged from approximately 149 feet msl to 176 feet msl. The groundwater gradient across the two sites was approximately 0.006 ft/ft and the groundwater flow direction was to the northwest. Figure 6-2, Tank Farms 3 and 4 — Groundwater Contour Map, presents a groundwater contour map of Tank Farms 3 and 4. The figure also shows well locations in relation to the tanks and the tank farms.

6.2 Analytical Results

Section 4.1 summarizes laboratory methods for this sampling period and Tables 6-1, Analytical Summary for Tank Farm 3, and 6-2, Analytical Summary for Tank Farm 4, identify laboratory analyses performed at Tank Farms 3 and 4. Table 6-3, Summary of Reported Concentrations at Tank Farm 3 and Table 6-4, Summary of Reported Concentrations at Tank Farm 4, present the reported concentrations for Tank Farms 3 and 4 during the reported sampling events. Appendix C provides analytical results for all laboratory methods analyzed. A summary of TPH, BTEX, and MTBE compounds, and general groundwater chemistry results are presented in Appendix C. Figure 6-3, Tank Farms 3 and 4 TPH and BTEX Concentration Map, exhibits the TPH, BTEX, and MTBE results from the August 1996 sampling event through the December 1996 sampling event.

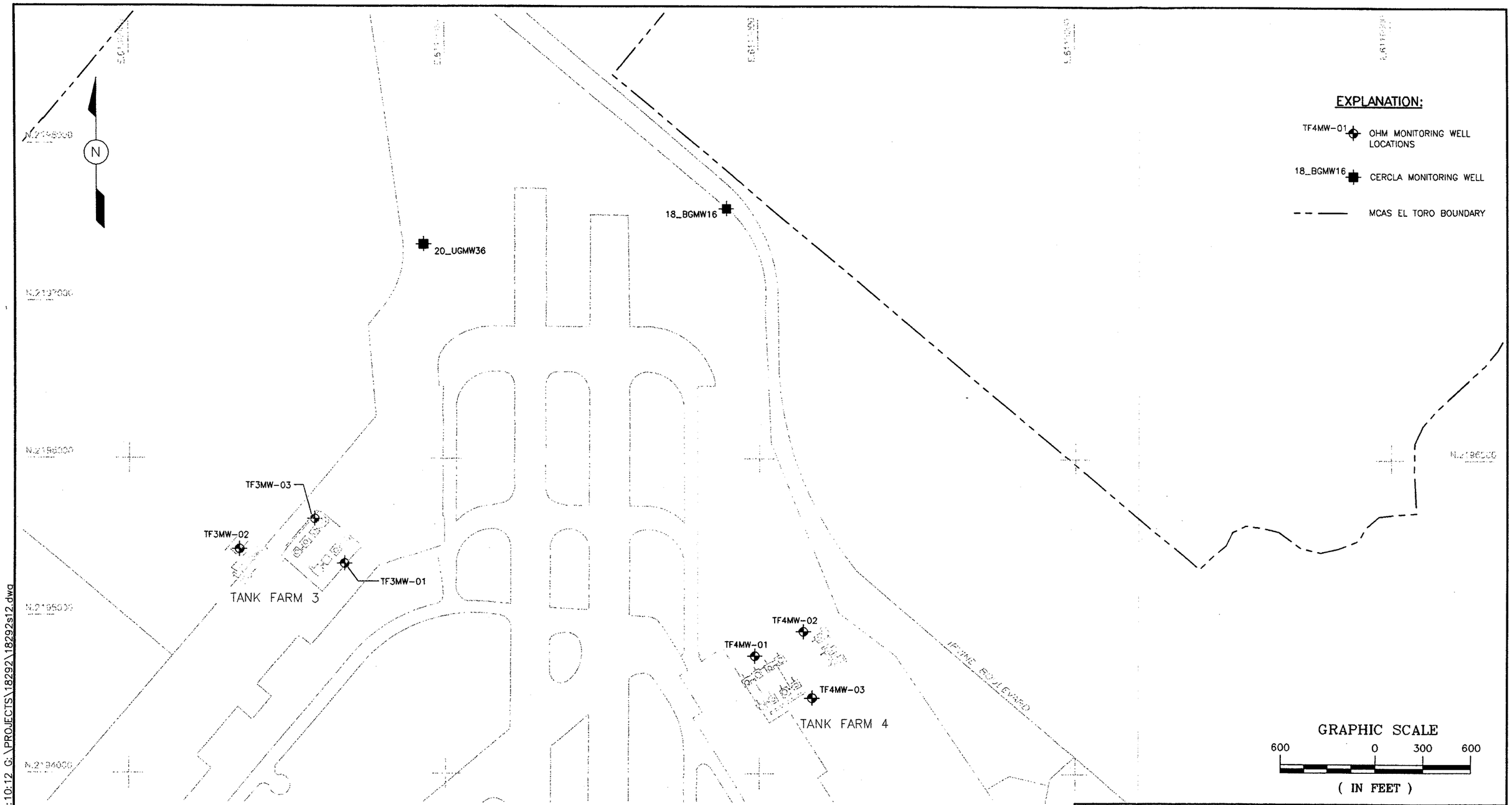
EXPLANATION OF ANALYTICAL TABLES

Analytical Methods

EPA Method 310.1 - alkalinity
EPA Method 350.1 / 350.2 / 350.3 - ammonia
EPA Method 8020 - BTEX and methyl tertiary butyl ether (MTBE)
EPA Method 300.0 - chloride
EPA Method 6010A - iron and potassium
EPA Method 353.2 - nitrate-nitrite
EPA Method 150.1 / 9045 - pH
EPA Method 300.0 / 375.2 /375.4 - sulfate
EPA Method 160.1 - total dissolved solids
SM 9215B / SM 9215C / SM 9215D - total heterotrophic plate count
EPA Method 351.2 / 351.4 - total Kjeldahl nitrogen (TKN)
EPA Method 415.1 / 415.2 - total organic compounds
EPA Method 8015/ CA LUFT Modified - total petroleum hydrocarbons as gasoline, JP5 and/or diesel
EPA Method 365.2 - total phosphorous
EPA Method 160.2 - total suspended solids
EPA Method 8260A - volatile organic compounds
EPA Method 8260A - volatile organic compounds

Abbreviations:

CA LUFT - California Leaking Underground Fuel Farms
EPA - Environmental Protection Agency
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
mg/L - milligrams per liter
µmhos/cm - micro mhmos per centimeter
cfu/ml - colony forming units per milliliter
U - not detected above or equal to the stated reported limit
J - estimated value
UJ - not detected at the estimated reporting limit
R - rejected
P - fuel pattern does not match that of laboratory standard
PJ - fuel pattern of the estimated value does not match that of the laboratory standard
NA - not analyzed



TANK FARMS 3 AND 4 SURVEY DATA

WELL LOCATIONS	NAD 27 NORTHING	NAD 27 EASTING	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)
TF3MW-01	554887.57	1548952.31	2195332.55	6110359.68	322.86	333.45
TF3MW-02	554977.15	1548289.79	2195422.13	6109697.16	318.39	319.36
TF3MW-03	555171.12	1548763.09	2195616.10	6110170.46	329.13	329.92
TF4MW-01	554299.23	1551560.92	2194744.18	6112968.30	378.84	379.29
TF4MW-02	554455.30	1551869.88	2194900.25	6113277.27	384.70	385.27
TF4MW-03	554034.55	1551924.95	2194479.50	6113332.33	384.07	384.53
18_BGMW16	557141.35	1551377.31	2197586.29	6112784.73	376.58	375.82
20_UGMW36	556917.86	1549454.70	2197362.81	6110862.10	338.70	338.12

msl – mean sea level

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: R. PIRMORADIAN — DATE: 09/12/97
CHECKED BY: J. Dubenow — DATE: 9/25/97
APPROVED BY: V. [illegible] — DATE: 9/25/97
PROJECT MANAGER — DATE

TANK FARMS 3 AND 4
MONITORING WELL LOCATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

AUTOCAD FILE No. 18292S12.DWG

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=600'	1	1	SW4168	18292	FIG 6-1	0

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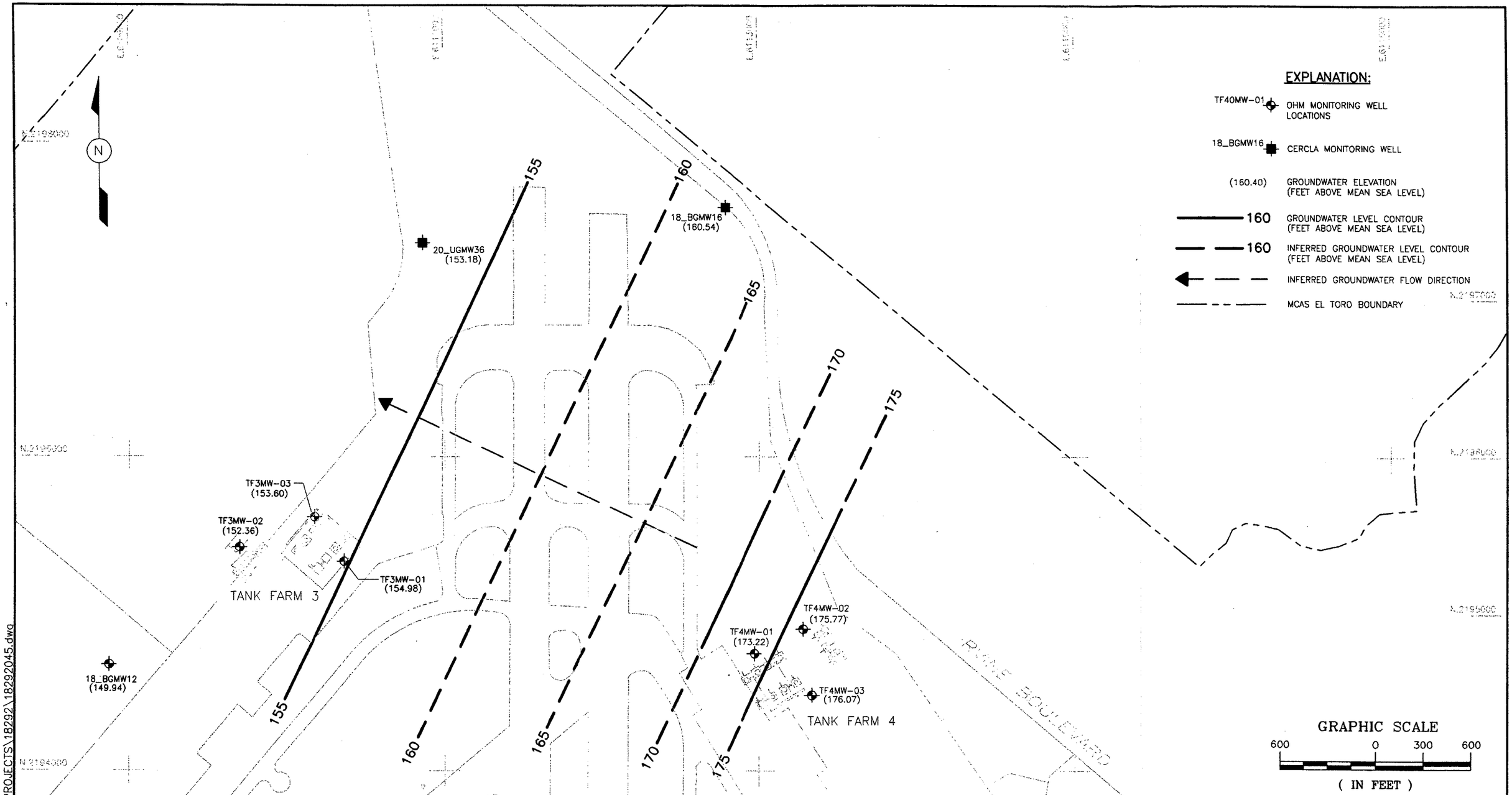

TANK FARMS 3 AND 4 SURVEY DATA

WELL LOCATIONS	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)	SCREEN INTERVAL (feet bgs)
TF3MW-01	2195332.55	6110359.68	322.86	333.45	169.5-209.5
TF3MW-02	2195422.13	6109697.16	318.39	319.36	159-199
TF3MW-03	2195616.10	6110170.46	329.13	329.92	165.5-205.5
TF4MW-01	2194744.18	6112968.30	378.84	379.29	201-241
TF4MW-02	2194900.25	6113277.27	384.70	385.27	207-247
TF4MW-03	2194479.50	6113332.33	384.07	384.53	202.5-242.5
18_BGMW12	2194672.84	6108873.29	304.48	304.89	165-205
18_BGMW16	2197586.29	6112784.73	376.58	375.82	223-263
20_UGMW36	2197362.81	6110862.10	338.70	338.12	183-223

msl - mean sea level
bgs - below ground surface

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

CONTRACT NAME: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97
CHECKED BY: J. Dubenow DATE: 9/25/97
APPROVED BY: V. [illegible] DATE: 9/25/97
PROJECT MANAGER DATE
AUTOCAD FILE No. 18292045.DWG

TANK FARMS 3 AND 4
GROUNDWATER CONTOUR MAP
DECEMBER 13 AND 16, 1997

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
1"=600'	1	1	SW4168	18292	FIG 6-2

Sept 12, 1997 - 11:08:45 G:\PROJECTS\18292\18292045.dwg

Table 6-1
Analytical Summary for Tank Farm 3

Sample Number	Sample Location	Date Sampled	EPA 1010	EPA 120.1	EPA 130.1	EPA 130.2	EPA 300.0	EPA 314A	EPA 325.2	EPA 340.2	EPA 353.3	EPA 365.2	EPA 375.3
97-TF3-W-1521	Trip Blank	1/15/97											
97-TF3-W-1522	Source Blank	1/15/97											
97-TF3-W-1523	Equipment Rinsate	1/15/97											
97-TF3-W-1524	TF3MW-03	1/15/97		X		X			X	X	X	X	X
97-TF3-W-1525	Equipment Rinsate	1/15/97											
97-TF3-W-1529	Equipment Rinsate	1/16/97											
97-TF3-W-1530	TF3MW-02	1/16/97		X		X			X	X	X	X	X
97-TF3-W-1541	Equipment Rinsate	1/20/97											
97-TF3-W-1542	TF3MW-01	1/20/97		X		X			X	X	X	X	X

Table 6-1
Analytical Summary for Tank Farm 3

Sample Number	Sample Location	Date Sampled	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A	EPA 7470A	EPA 8020	EPA 8260A	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5	TPH EXTRACTABLE
97-TF3-W-1521	Trip Blank	1/15/97						X			X		
97-TF3-W-1522	Source Blank	1/15/97						X		X	X	X	X
97-TF3-W-1523	Equipment Rinsate	1/15/97						X		X	X	X	X
97-TF3-W-1524	TF3MW-03	1/15/97	X	X	X	X	X	X		X	X	X	X
97-TF3-W-1525	Equipment Rinsate	1/15/97						X		X	X	X	X
97-TF3-W-1529	Equipment Rinsate	1/16/97						X		X	X	X	X
97-TF3-W-1530	TF3MW-02	1/16/97	X	X	X	X	X	X		X	X	X	X
97-TF3-W-1541	Equipment Rinsate	1/20/97						X		X	X	X	X
97-TF3-W-1542	TF3MW-01	1/20/97	X	X	X	X	X	X		X	X		

Table 6-2
Analytical Summary for Tank Farm 4

Sample Number	Sample Location	Date Sampled	EPA 1010	EPA 120.1	EPA 130.1	EPA 300.0	EPA 314A	EPA 375.4	EPA 405.1	EPA 410.4
96-TF4-W-368	Trip Blank	12/30/96								
96-TF4-W-369	Equipment Rinsate	12/30/96								
96-TF4-W-370	18_BGMW16	12/30/96								
96-TF4-W-371	Equipment Rinsate	12/30/96								
96-TF4-W-372	20_UGMW36	12/30/96								
96-TF4-W-373	Trip Blank	12/31/96								
96-TF4-W-374	Equipment Rinsate	12/31/96								
96-TF4-W-375	TF4MW-01	12/31/96		X	X	X		X	X	X
96-TF4-W-376	TF4MW-01	12/31/96		X	X	X		X	X	X
96-TF4-W-377	Equipment Rinsate	12/31/96								
96-TF4-W-378	TF4MW-02	12/31/96		X	X	X		X	X	X
97-TF4-W-379	Trip Blank	1/6/97								
97-TF4-W-380	Equipment Rinsate	1/6/97								
97-TF4-W-381	TF4MW-03	1/6/97		X	X	X		X	X	X

Table 6-2
Analytical Summary for Tank Farm 4

Sample Number	Sample Location	Date Sampled	EPA 450.1	EPA 6010A	EPA 7470A	EPA 8020	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL
96-TF4-W-368	Trip Blank	12/30/96				X				
96-TF4-W-369	Equipment Rinsate	12/30/96				X	X			X
96-TF4-W-370	18_BGMW16	12/30/96				X	X			X
96-TF4-W-371	Equipment Rinsate	12/30/96				X	X			X
96-TF4-W-372	20_UGMW36	12/30/96				X	X			
96-TF4-W-373	Trip Blank	12/31/96				X				X
96-TF4-W-374	Equipment Rinsate	12/31/96				X				X
96-TF4-W-375	TF4MW-01	12/31/96		X	X	X		X		X
96-TF4-W-376	TF4MW-01	12/31/96		X	X	X		X		X
96-TF4-W-377	Equipment Rinsate	12/31/96				X				X
96-TF4-W-378	TF4MW-02	12/31/96		X	X	X		X		
97-TF4-W-379	Trip Blank	1/6/97				X				X
97-TF4-W-380	Equipment Rinsate	1/6/97				X				X
97-TF4-W-381	TF4MW-03	1/6/97	X	X	X	X			X	

Table 6-2
Analytical Summary for Tank Farm 4

Sample Number	Sample Location	Date Sampled	TPH AS GASOLINE	TPH AS JP-5	TPH EXTRACTABLE
96-TF4-W-368	Trip Blank	12/30/96	X		
96-TF4-W-369	Equipment Rinsate	12/30/96	X		
96-TF4-W-370	18_BGMW16	12/30/96	X		
96-TF4-W-371	Equipment Rinsate	12/30/96	X		
96-TF4-W-372	20_UGMW36	12/30/96	X		
96-TF4-W-373	Trip Blank	12/31/96	X		
96-TF4-W-374	Equipment Rinsate	12/31/96	X		
96-TF4-W-375	TF4MW-01	12/31/96	X		
96-TF4-W-376	TF4MW-01	12/31/96	X		
96-TF4-W-377	Equipment Rinsate	12/31/96	X		
96-TF4-W-378	TF4MW-02	12/31/96	X		
97-TF4-W-379	Trip Blank	1/6/97	X		
97-TF4-W-380	Equipment Rinsate	1/6/97	X		
97-TF4-W-381	TF4MW-03	1/6/97	X		

Table 6-3
Summary of Reported Concentrations for Tank Farm 3
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF3-W-1421	97-TF3-W-1542	96-TF3-W-888	97-TF3-W-1530	96-TF3-W-942	97-TF3-W-1524
Sample Location		TF3MW-01	TF3MW-01	TF3MW-02	TF3MW-02	TF3MW-03	TF3MW-03
Date Collected		11/06/96	1/20/97	09/12/96	1/16/97	09/18/96	1/15/97
	Unit						
Metals (EPA 6010A)							
Arsenic	µg/L	NA	5.0 U	NA	7.0	NA	5.6
Barium	µg/L	NA	20	NA	46	NA	21
Calcium	µg/L	NA	350000	NA	270000	NA	98000
Chromium	µg/L	NA	10 U	NA	20	NA	10 U
Iron	µg/L	900	430	860	4300	590	1300
Magnesium	µg/L	NA	310000	NA	200000	NA	80000
Manganese	µg/L	NA	32	NA	90	NA	42
Molybdenum	µg/L	NA	21	NA	20 U	NA	20 U
Potassium	µg/L	5900	3800	9600	5700	5900	3500
Selenium	µg/L	NA	250	NA	180	NA	21
Sodium	µg/L	NA	210000	NA	220000	NA	170000
Vanadium	µg/L	NA	14	NA	27	NA	20
Zinc	µg/L	NA	120	NA	26	NA	20 U
General Chemistry							
Specific Conductance (EPA 120.1)	µmhos/cm	NA	5300	NA	3500	NA	1600
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1700	NA	510	NA	570
pH (EPA 150.1)	pH Units	7.2	NA	7.3	NA	7.6	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	3600	NA	2400	NA	1100	NA
Total Suspended Solids (EPA 160.2)	mg/L	18 J	NA	2.0 J	NA	7.0	NA
Alkalinity (EPA 310.1)	mg/L	180	NA	220	NA	520	NA
Chloride (EPA 325.2)	mg/L	NA	320	NA	390	NA	68
Fluoride (EPA 340.2)	mg/L	NA	0.28	NA	0.38	NA	0.31
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	28	21	12	15	3.3	4.1
Phosphate (EPA 365.2)	mg/L	0.10	0.060	0.090	0.14	0.11	0.040
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	2000	1700	930	980	300	190
Chemical Oxygen Demand (COD)(EPA 410.4)	mg/L	NA	10 U	NA	15	NA	10 U
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	1.4	NA	1.8	NA	2.0	NA
Microbiology							
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	5000	NA	24000	NA	2000	NA

6-4

mary of Reported Concentrations for Tank Farm 4

AS El Toro, Santa Ana, California

OHM Sample Number		96-TF4-W-264	96-TF4-W-375	96-TF4-W-376	96-TF4-W-269	96-TF4-W-378	96-TF4-W-275	97-TF4-W-381	96-TF4-W-266	96-TF4-W-370	96-TF4-W-272	96-TF4-W-272
Sample Location		TF4MW-01	TF4MW-01	TF4MW-01	TF4MW-02	TF4MW-02	TF4MW-03	TF4MW-03	18_BGMW16	18_BGMW16	20_UGMW36	20_UGMW36
Date Collected		09/27/96	12/31/96	12/31/96	10/04/96	12/31/96	10/03/96	1/6/97	10/02/96	12/30/96	10/07/96	12/30/96
	Unit											
Total Petroleum Hydrocarbons (CA LUFT-8015M)												
TPH As Diesel	µg/L	170	100 U	100 U	200 R	100 U	6600	70 J	5500	100 U	100 U	100 U
TPH As Gasoline	µg/L	1100	300	300	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)												
Benzene	µg/L	340	120	110	0.3 U	0.3 U	2.13	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.6 U	0.3 U	0.3 U	0.3 U	0.3 U	1.46	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	76	20	18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Metals (EPA 6010A)												
Aluminum	µg/L	NA	102 U	172 U	NA	718 U	NA	199	NA	NA	NA	NA
Calcium	µg/L	NA	92300	89600	NA	159000	NA	131000 J	NA	NA	NA	NA
Iron	µg/L	1160	235	181	1460	3950	1520	1590	NA	NA	NA	NA
Lead	µg/L	NA	3 U	3 U	NA	3 U	NA	44.9	NA	NA	NA	NA
Magnesium	µg/L	NA	87100	85200	NA	98400	NA	114000	NA	NA	NA	NA
Manganese	µg/L	NA	84.3	79.8	NA	66	NA	171	NA	NA	NA	NA
Molybdenum	µg/L	NA	52.8	50 U	NA	56.7	NA	56.5	NA	NA	NA	NA
Potassium	µg/L	4150	5540 U	5160 U	6880	4260 U	4070	6730 U	NA	NA	NA	NA
Selenium	µg/L	NA	17.4	12.8	NA	21.1	NA	51.0	NA	NA	NA	NA
Sodium	µg/L	NA	237000	236000	NA	217000	NA	191000 J	NA	NA	NA	NA
EPA 7470A												
ury (EPA 7470A)	µg/L	NA	0.2 U	0.31	NA	0.32	NA	0.2 U	NA	NA	NA	NA
EPA 9250												
de (EPA 9250)	mg/L	NA	NA	NA	NA	NA	NA	211	NA	NA	NA	NA
General Chemistry												
Specific Conductance (EPA 120.1)	µmhos/cm	NA	3165	1983	NA	2866	NA	33900	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	589	574	NA	802	NA	796	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	8.1	NA	NA	7.8 J	NA	8.00 J	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	1300	NA	NA	1700	NA	1450	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	11	NA	NA	15	NA	10 U	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	171	168	NA	181	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	4.7	3.30	3.32	4.21	5.10	6.05	2.91	NA	NA	NA	NA
Sulfate (EPA 300.0)	mg/L	487	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	445	NA	NA	313	NA	379	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.2)	mg/L	0.1 U	NA	NA	0.12	NA	0.1 U	NA	NA	NA	NA	NA
Sulfate (EPA 375.4)	mg/L	NA	746	691	429	664	547	693	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	13	12	NA	12	NA	5	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	15	20	NA	20	NA	22	NA	NA	NA	NA
Microbiology												
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	7600	NA	NA	200	NA	2600	NA	NA	NA	NA	NA

PAGE NO. 6-12

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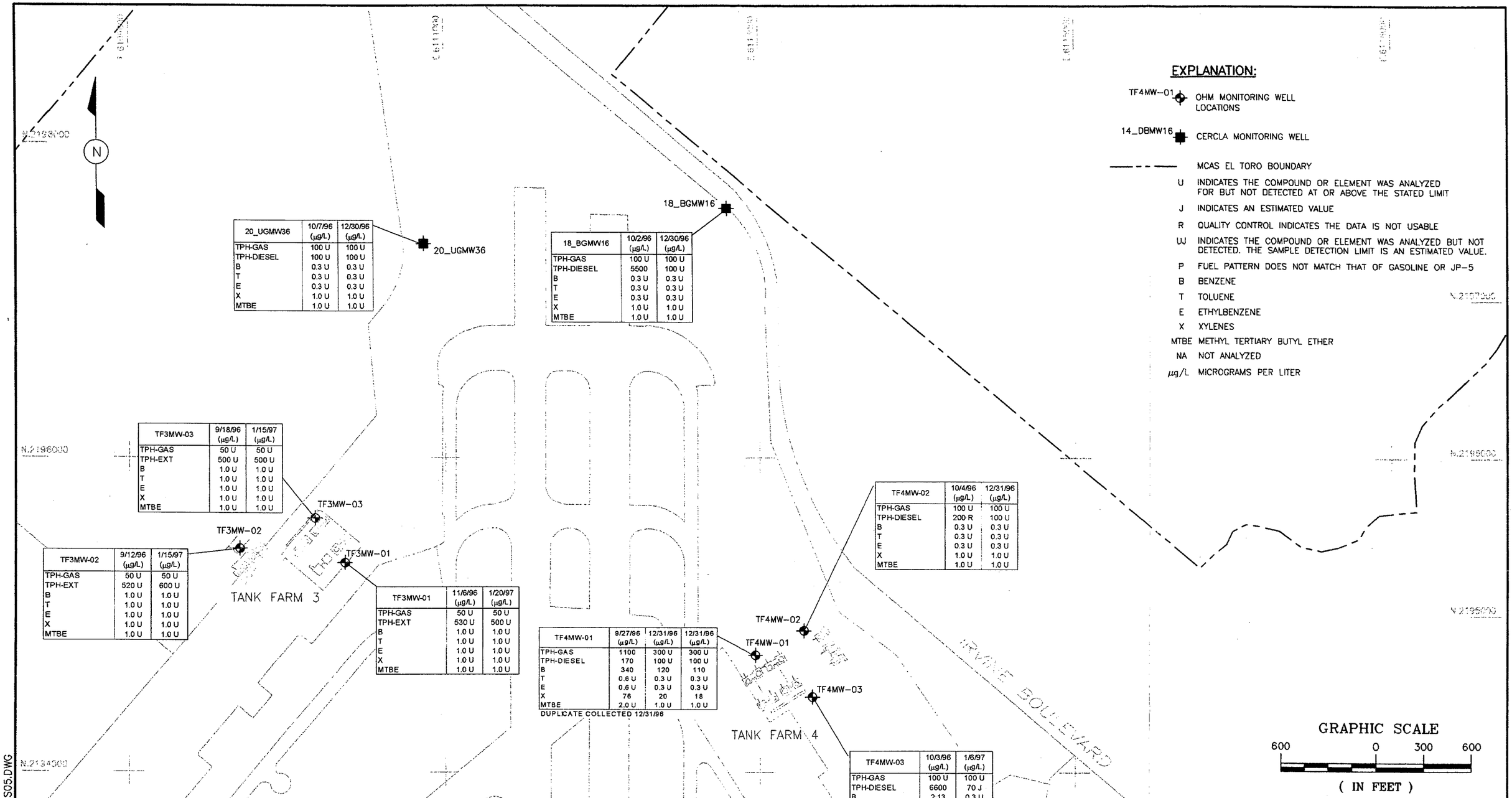

20_UGMW36	10/7/96 (µg/L)	12/30/96 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

18_BGMW16	10/2/96 (µg/L)	12/30/96 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	5500	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF3MW-03	9/18/96 (µg/L)	1/15/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	500 U	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF3MW-02	9/12/96 (µg/L)	1/15/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	520 U	600 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF3MW-01	11/6/96 (µg/L)	1/20/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	530 U	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF4MW-01	9/27/96 (µg/L)	12/31/96 (µg/L)	12/31/96 (µg/L)
TPH-GAS	1100	300 U	300 U
TPH-DIESEL	170	100 U	100 U
B	340	120	110
T	0.6 U	0.3 U	0.3 U
E	0.6 U	0.3 U	0.3 U
X	76	20	18
MTBE	2.0 U	1.0 U	1.0 U

DUPLICATE COLLECTED 12/31/96

TF4MW-02	10/4/96 (µg/L)	12/31/96 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	200 R	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF4MW-03	10/3/96 (µg/L)	1/6/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	6600	70 J
B	2.13	0.3 U
T	0.3 U	0.3 U
E	1.46	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: B. COHEN DATE: 03/10/97
CHECKED BY: J. Nybeuer DATE: 9/25/97
APPROVED BY: [illegible] DATE: 9/25/97
PROJECT MANAGER DATE

TANK FARMS 3 AND 4
TPH AND BTEX CONCENTRATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

AUTOCAD FILE No. 18292S20.DWG

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=600'	1	1	SW4168	18292	FIG 6-3	0

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Section 7
Tank Farms 555, 5 and 6

For the purpose of presenting the groundwater occurrence and analytical results, tank farms, within a reasonable aerial extent have been combined as a monitoring networking map. In this section, Tank Farms 555, 5 and 6 have been combined as a monitoring well network (see Figure 7-1, Tank Farms 555, 5 and 6 — Monitoring Well Location Map). This combined map was utilized to better define groundwater gradients and flow direction, as well as identify impacted groundwater and its lateral extent.

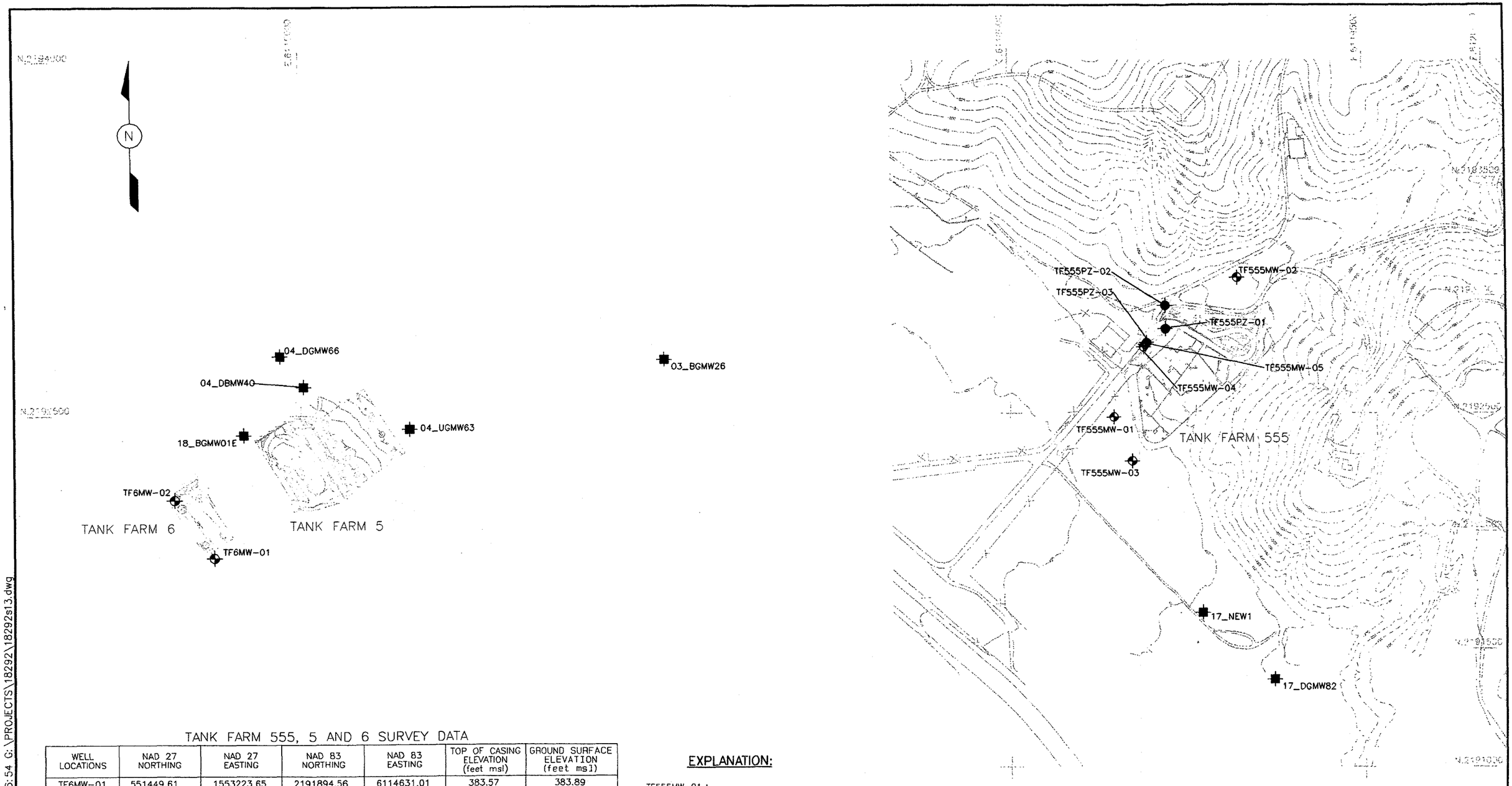
7.1 Groundwater Occurrence

OHM sampled seven OHM wells, two OHM piezometers, and seven CERCLA wells in December 1996. The OHM wells sampled were TF555MW-01, TF555MW-02, TF555MW-03, TF555MW-04, TF555MW-05, TF6MW-01 and TF6MW-02. The two piezometers were TF555PZ-01, TF555PZ-02. The CERCLA wells sampled were 04_DGMW66, 18_BGMW01E, 04_UGMW63, 04_DGMW40, 17_NEW1, 03_BGMW26, and 17_DGMW82.

In Wells TF555MW-02, TF555MW-04, TF555MW-05, TF555PZ-01 and, TF555PZ-02 groundwater was encountered from 25-43 feet bgs. These wells are located in the foothills to the northeast of the Station. In the previous groundwater report presented by OHM (OHM 1997), OHM provided a brief introduction to a shallow groundwater zone situated in the Vaqueros and Sespe Formations. The bedrock was encountered during the installation of the groundwater wells at Tank Farm 555. The groundwater gradient in the foothills was 0.033 ft/ft to the south.

In Wells TF555MW-01, TF555MW-03, TF6MW-01, TF6MW-02, 04_DGMW66, 18_DGMW01E, 04_UGMW63, and 04_DBMW40, groundwater was encountered from 184 to 210 feet bgs. These wells were installed in alluvium deposits at the base of the foothills to Tank Farm 6, see Figure 7-2, Tank Farms 555, 5 and 6 — Groundwater Contour Map. The groundwater gradient was 0.011 ft/ft to the northwest.

The inferred contact between the bedrock and alluvium is identified in Figure 7-2. The Tank Farms 555, 5 and 6 were presented together in order to emphasize the variation in groundwater occurrence between wells in the bedrock and in the alluvium.



TANK FARM 555, 5 AND 6 SURVEY DATA

WELL LOCATIONS	NAD 27 NORTHING	NAD 27 EASTING	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)
TF6MW-01	551449.61	1553223.65	2191894.56	6114631.01	383.57	383.89
TF6MW-02	551696.60	1553057.67	2192141.55	6114465.03	384.65	384.93
04_DGMW66	552307.70	1553503.72	2192752.64	6114911.10	401.57	401.11
18_BGMW01E	551972.17	1553350.12	2192417.12	6114757.49	392.08	391.44
04_UGMW63	551997.26	1554049.43	2192442.20	6115456.81	404.13	403.42
04_DBMW40	552177.74	1553604.06	2192622.68	6115011.43	400.46	400.01
TF555MW-01	552037.13	1557031.71	2192482.03	6118439.11	424.12	424.49
TF555MW-02	552628.16	1557557.92	2193073.06	6118965.34	458.24	458.48
TF555MW-03	551850.74	1557110.32	2192295.65	6118517.72	422.91	423.37
TF555MW-04	552335.92	1557161.21	2192780.82	6118568.62	437.01	437.39
TF555MW-05	552346.73	1557168.37	2192791.63	6118575.78	437.63	437.99
TF555PZ-01	552412.22	1557252.36	2192857.12	6118659.77	441.99	442.62
TF555PZ-02	552511.30	1557251.37	2192956.20	6118658.78	445.12	444.55
TF555PZ-03	552353.68	1557173.84	2192798.58	6118581.25	438.02	438.33
17_NEW1	551205.68	1557405.31	2191650.59	6118812.71	431.95	431.36
03_BGMW26	552288.32	1555125.24	2192733.25	6116532.63	419.82	419.39
17_DGMW82	NA	NA	2191368.28	6119115.93	442.50	441.69

msl – mean sea level
NA – not available

EXPLANATION:

TF555MW-01 — OHM MONITORING WELL LOCATIONS

TF555PZ-01 — PIEZOMETER WELL LOCATIONS

18_BGMW01E — CERCLA MONITORING WELL

GRAPHIC SCALE

400 0 200 400

(IN FEET)

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT	SWDIV
DRAWN BY	R. PIRMORADIAN — DATE 09/12/97
CHECKED BY	J. Dickerson — DATE 9.25.97
APPROVED BY	V. [illegible] — DATE 9/25/97
PROJECT MANAGER	DATE
AUTOCAD FILE No.	18292S13.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

TANK FARMS 555, 5 AND 6
MONITORING WELL LOCATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=400'	1	1	SW4168	18292	FIG 7-1	0

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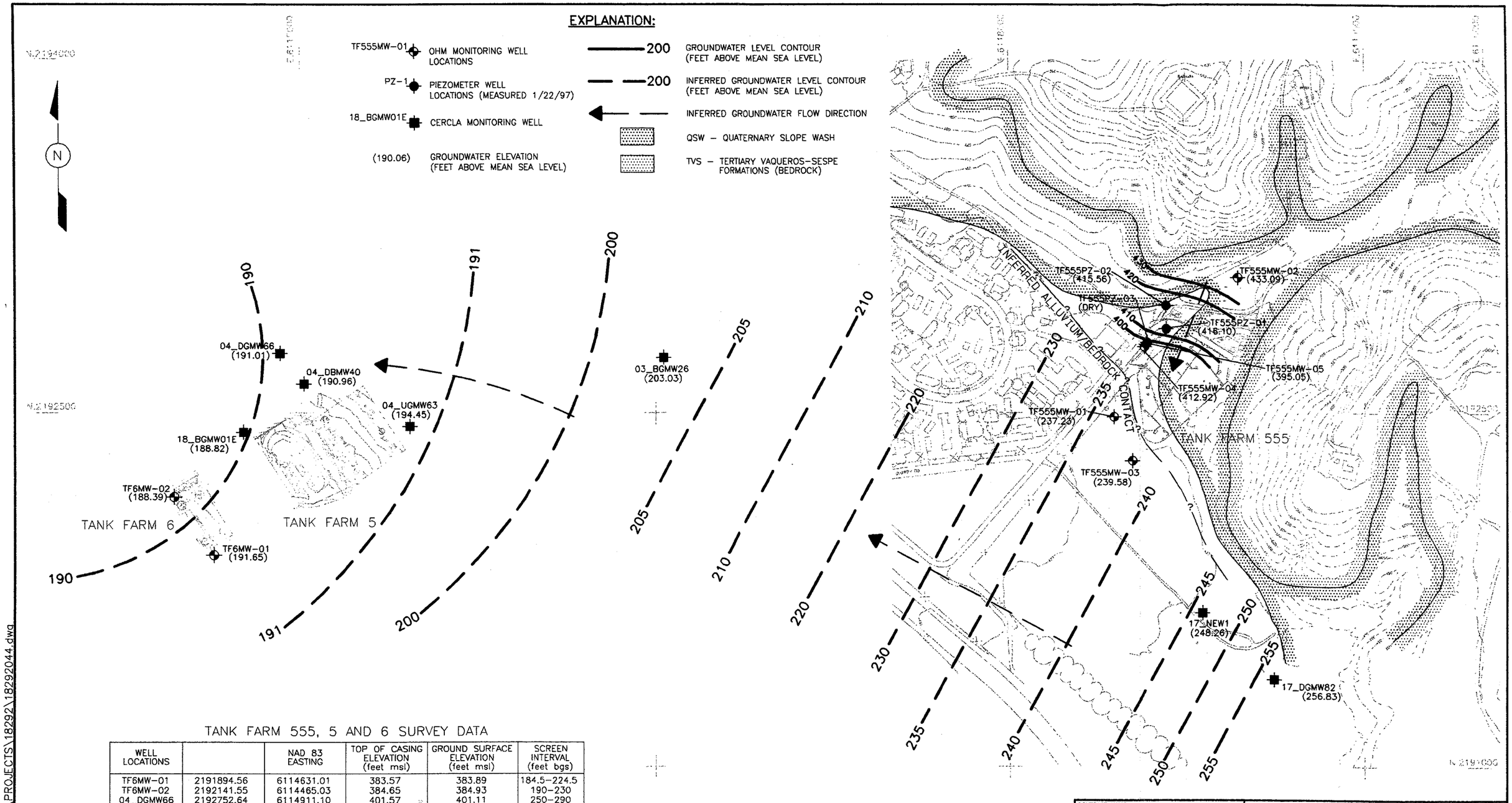

TANK FARM 555, 5 AND 6 SURVEY DATA

WELL LOCATIONS		NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)	SCREEN INTERVAL (feet bgs)
TF6MW-01	2191894.56	6114631.01	383.57	383.89	184.5–224.5
TF6MW-02	2192141.55	6114465.03	384.65	384.93	190–230
04_DGMW66	2192752.64	6114911.10	401.57	401.11	250–290
18_BGMW01E	2192417.12	6114757.49	392.08	391.44	205–225
04_UGMW63	2192442.20	6115456.81	404.13	403.42	235–275
04_DBMW40	2192622.68	6115011.43	400.46	400.01	220–260
TF555MW-01	2192482.03	6118439.11	424.12	424.49	179–219
TF555MW-02	2193073.06	6118965.34	458.24	458.48	25–60
TF555MW-03	2192295.65	6118517.72	422.91	423.37	180–220
TF555MW-04	2192780.82	6118568.62	437.01	437.39	89.6–109.6
TF555MW-05	2192791.63	6118575.78	437.63	437.99	49.5–64.5
TF555PZ-01	2192857.12	6118659.77	441.99	442.62	25–50
TF555PZ-02	2192956.20	6118658.78	445.12	444.55	25–50
TF555PZ-03	2192798.58	6118581.25	438.02	438.33	25–40
17_NEW1	2191650.59	6118812.71	431.95	431.36	186–226
03_BGMW26	2192733.25	6116532.63	419.82	419.39	230–270
17_DGMW82	2191368.28	6119115.93	442.50	441.69	235–255

msl – mean sea level
bgs – below ground surface

GRAPHIC SCALE

400 0 200 400

(IN FEET)

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

CONTRACT NAME: SWDIV

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97

CHECKED BY: J. Dubenas DATE: 9/25/97

APPROVED BY: [signature] DATE: 9/25/97

PROJECT MANAGER DATE

AUTOCAD FILE No. 18292044.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

TANK FARMS 555, 5 AND 6
GROUNDWATER CONTOUR MAP
DECEMBER 13, 1996

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
1"=400'	1	1	SW4168	18292	FIG 7-2

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7.2 Analytical Results

Section 4.1 summarizes laboratory methods for this sampling period and Tables 7-1, Analytical Summary for Tank Farm 555, and 7-2, Analytical Summary for Tank Farms 5 and 6, identify laboratory analyses performed at Tank Farms 555, 5 and 6. Table 7-3, Summary of Reported Concentrations for Tank Farm 555, and Table 7-4, Summary of Reported Concentrations for Tank Farms 5 and 6 present the reported concentrations for Tank Farms 555, 5 and 6 during the reported sampling events. Appendix C provides analytical results for all laboratory methods analyzed. Figure 7-3, Tank Farms 555, 5 and 6 TPH and BTEX Concentration Map, exhibits the TPH, BTEX, and MTBE results from the August 1996 sampling event through the December 1996 sampling event.

EXPLANATION OF ANALYTICAL TABLES

Analytical Methods

EPA Method 310.1 - alkalinity
EPA Method 350.1 / 350.2 / 350.3 - ammonia
EPA Method 8020 - BTEX and methyl tertiary butyl ether (MTBE)
EPA Method 300.0 - chloride
EPA Method 6010A - iron and potassium
EPA Method 353.2 - nitrate-nitrite
EPA Method 150.1 / 9045 - pH
EPA Method 300.0 / 375.2 /375.4 - sulfate
EPA Method 160.1 - total dissolved solids
SM 9215B / SM 9215C / SM 9215D - total heterotrophic plate count
EPA Method 351.2 / 351.4 - total Kjeldahl nitrogen (TKN)
EPA Method 415.1 / 415.2 - total organic compounds
EPA Method 8015/ CA LUFT Modified - total petroleum hydrocarbons as gasoline, JP5 and/or diesel
EPA Method 365.2 - total phosphorous
EPA Method 160.2 - total suspended solids
EPA Method 8260A - volatile organic compounds
EPA Method 8260A - volatile organic compounds

Abbreviations:

CA LUFT - California Leaking Underground Fuel Farms
EPA - Environmental Protection Agency
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
mg/L - milligrams per liter
µmhos/cm - micro mhmos per centimeter
cfu/ml - colony forming units per milliliter
U - not detected above or equal to the stated reported limit
J - estimated value
UJ - not detected at the estimated reporting limit
R - rejected
P - fuel pattern does not match that of laboratory standard
PJ - fuel pattern of the estimated value does not match that of the laboratory standard
NA - not analyzed

Table 7-1
Analytical Summary for Tank Farm 555

Sample Number	Sample Location	Date Sampled	EPA 120.1	EPA 130.1	EPA 130.2	EPA 300.0	EPA 325.2	EPA 340.2	EPA 353.3	EPA 365.2
97-TF555-W-390	Trip Blank	1/22/97								
97-TF555-W-391	Equipment Rinsate	1/22/97								
97-TF555-W-392	TF555PZ-02	1/22/97	X	X		X				
97-TF555-W-393	Equipment Rinsate	1/22/97								
97-TF555-W-394	TF555MW-04	1/22/97	X	X		X				
97-TF555-W-395	Equipment Rinsate	1/22/97								
97-TF555-W-396	TF555PZ-01	1/22/97	X	X		X				
97-TF555-W-397	Equipment Rinsate	1/22/97								
97-TF555-W-398	TF555MW-05	1/23/97	X	X		X				
97-TF555-W-401	Trip Blank	1/29/97								
97-TF555-W-402	Equipment Rinsate	1/29/97								
97-TF555-W-403	TF555MW-02	1/29/97	X	X		X				
97-TF555-W-404	Trip Blank	1/31/97								
97-TF555-W-405	17_DGMW82	1/31/97								
97-TF555-W-406	17_NEW01	1/31/97								
97-TF555-W-407	Trip Blank	2/4/97								
97-TF555-W-408	Equipment Rinsate	2/4/97								
97-TF555-W-409	TF555MW-03	2/4/97	X	X		X				
97-TF555-W-410	TF555MW-03	2/4/97	X	X		X				
97-TF555-W-411	Equipment Rinsate	2/4/97								
97-TF555-W-412	TF555MW-01	2/4/97	X	X		X				
97-TF555-W-413	03_BGMW26	2/7/97								
97-TF555-W-414	03_BGMW26	2/7/97								
97-TF555-W-415	Trip Blank	2/7/97								
97-TF555-W-416	Equipment Rinsate	2/7/97								

Table 7-1
Analytical Summary for Tank Farm 555

Sample Number	Sample Location	Date Sampled	EPA 375.3	EPA 375.4	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A	EPA 7470A	EPA 8020
97-TF555-W-390	Trip Blank	1/22/97								X
97-TF555-W-391	Equipment Rinsate	1/22/97								X
97-TF555-W-392	TF555PZ-02	1/22/97			X	X	X	X	X	X
97-TF555-W-393	Equipment Rinsate	1/22/97								X
97-TF555-W-394	TF555MW-04	1/22/97			X	X	X	X	X	X
97-TF555-W-395	Equipment Rinsate	1/22/97								X
97-TF555-W-396	TF555PZ-01	1/22/97			X	X	X	X	X	X
97-TF555-W-397	Equipment Rinsate	1/22/97								X
97-TF555-W-398	TF555MW-05	1/23/97			X	X	X	X	X	X
97-TF555-W-401	Trip Blank	1/29/97								X
97-TF555-W-402	Equipment Rinsate	1/29/97								X
97-TF555-W-403	TF555MW-02	1/29/97			X	X	X	X	X	X
97-TF555-W-404	Trip Blank	1/31/97								X
97-TF555-W-405	17_DGMW82	1/31/97								X
97-TF555-W-406	17_NEW01	1/31/97								X
97-TF555-W-407	Trip Blank	2/4/97								X
97-TF555-W-408	Equipment Rinsate	2/4/97								X
97-TF555-W-409	TF555MW-03	2/4/97			X	X	X	X	X	X
97-TF555-W-410	TF555MW-03	2/4/97			X	X		X	X	X
97-TF555-W-411	Equipment Rinsate	2/4/97								X
97-TF555-W-412	TF555MW-01	2/4/97			X	X		X	X	X
97-TF555-W-413	03_BGMW26	2/7/97								X
97-TF555-W-414	03_BGMW26	2/7/97								X
97-TF555-W-415	Trip Blank	2/7/97								X
97-TF555-W-416	Equipment Rinsate	2/7/97								X

Table 7-1
Analytical Summary for Tank Farm 555

Sample Number	Sample Location	Date Sampled	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5	TPH-EXTRACTABLE
97-TF555-W-390	Trip Blank	1/22/97					X		
97-TF555-W-391	Equipment Rinsate	1/22/97				X	X		
97-TF555-W-392	TF555PZ-02	1/22/97				X	X		
97-TF555-W-393	Equipment Rinsate	1/22/97				X	X		
97-TF555-W-394	TF555MW-04	1/22/97				X	X		
97-TF555-W-395	Equipment Rinsate	1/22/97				X	X		
97-TF555-W-396	TF555PZ-01	1/22/97				X	X		
97-TF555-W-397	Equipment Rinsate	1/22/97				X	X		
97-TF555-W-398	TF555MW-05	1/23/97				X	X		
97-TF555-W-401	Trip Blank	1/29/97					X		
97-TF555-W-402	Equipment Rinsate	1/29/97				X	X		
97-TF555-W-403	TF555MW-02	1/29/97				X	X		
97-TF555-W-404	Trip Blank	1/31/97	X				X		
97-TF555-W-405	17_DGMW82	1/31/97	X			X	X		
97-TF555-W-406	17_NEW01	1/31/97	X			X	X		
97-TF555-W-407	Trip Blank	2/4/97					X		
97-TF555-W-408	Equipment Rinsate	2/4/97				X	X		
97-TF555-W-409	TF555MW-03	2/4/97				X	X		
97-TF555-W-410	TF555MW-03	2/4/97				X	X		
97-TF555-W-411	Equipment Rinsate	2/4/97				X	X		
97-TF555-W-412	TF555MW-01	2/4/97				X	X		
97-TF555-W-413	03_BGMW26	2/7/97	X			X	X		
97-TF555-W-414	03_BGMW26	2/7/97	X			X	X		
97-TF555-W-415	Trip Blank	2/7/97	X						
97-TF555-W-416	Equipment Rinsate	2/7/97	X			X	X		

Table 7-2
Analytical Summary for Tank Farms 5 and 6

Sample Number	Sample Location	Date Sampled	EPA 120.1	EPA 130.1	EPA 130.2	EPA 300.0	EPA 314A	EPA 325.2	EPA 340.2	EPA 353.3
97-TF6-W-1526	Trip Blank	1/16/97								
97-TF6-W-1527	Equipment Rinsate	1/16/97								
97-TF6-W-1528	TF6MW-01	1/16/97	X		X			X	X	X
97-TF6-W-1531	Equipment Rinsate	1/16/97								
97-TF6-W-1532	04_DBMW40	1/16/97								
97-TF6-W-1533	Trip Blank	1/17/97								
97-TF6-W-1535	Equipment Rinsate	1/17/97								
97-TF6-W-1536	04_DGMW66	1/17/97								
97-TF6-W-1537	04_UGMW63	1/17/97								
97-TF6-W-1538	Trip Blank	1/20/97								
97-TF6-W-1539	Equipment Rinsate	1/20/97								
97-TF6-W-1540	18_BGMW01E	1/20/97								
97-TF6-W-1543	Equipment Rinsate	1/20/97								
97-TF6-W-1544	TF6MW-02	1/20/97	X		X			X	X	X

Table 7-2
Analytical Summary for Tank Farms 5 and 6

Sample Number	Sample Location	Date Sampled	EPA 365.2	EPA 375.3	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A	EPA 7470A	EPA 8020
97-TF6-W-1526	Trip Blank	1/16/97								X
97-TF6-W-1527	Equipment Rinsate	1/16/97								X
97-TF6-W-1528	TF6MW-01	1/16/97	X	X	X	X	X	X	X	X
97-TF6-W-1531	Equipment Rinsate	1/16/97								X
97-TF6-W-1532	04_DBMW40	1/16/97								X
97-TF6-W-1533	Trip Blank	1/17/97								X
97-TF6-W-1535	Equipment Rinsate	1/17/97								X
97-TF6-W-1536	04_DGMW66	1/17/97								X
97-TF6-W-1537	04_UGMW63	1/17/97								X
97-TF6-W-1538	Trip Blank	1/20/97								X
97-TF6-W-1539	Equipment Rinsate	1/20/97								X
97-TF6-W-1540	18_BGMW01E	1/20/97								X
97-TF6-W-1543	Equipment Rinsate	1/20/97								X
97-TF6-W-1544	TF6MW-02	1/20/97	X	X	X	X	X	X	X	X

Table 7-2
Analytical Summary for Tank Farms 5 and 6

Sample Number	Sample Location	Date Sampled	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5	TPH-EXTRACTABLE
97-TF6-W-1526	Trip Blank	1/16/97					X		
97-TF6-W-1527	Equipment Rinsate	1/16/97				X	X	X	X
97-TF6-W-1528	TF6MW-01	1/16/97				X	X	X	X
97-TF6-W-1531	Equipment Rinsate	1/16/97				X	X	X	X
97-TF6-W-1532	04_DBMW40	1/16/97	X			X	X	X	X
97-TF6-W-1533	Trip Blank	1/17/97					X		
97-TF6-W-1535	Equipment Rinsate	1/17/97	X			X	X	X	X
97-TF6-W-1536	04_DGMW66	1/17/97	X			X	X	X	X
97-TF6-W-1537	04_UGMW63	1/17/97	X			X	X	X	X
97-TF6-W-1538	Trip Blank	1/20/97					X		
97-TF6-W-1539	Equipment Rinsate	1/20/97	X			X	X	X	X
97-TF6-W-1540	18_BGMW01E	1/20/97	X			X	X	X	X
97-TF6-W-1543	Equipment Rinsate	1/20/97				X	X	X	X
97-TF6-W-1544	TF6MW-02	1/20/97	X			X	X	X	X

Table 7-3
Summary of Reported Concentrations for Tank Farm 555
MCAS El Toro,Santa Ana, California

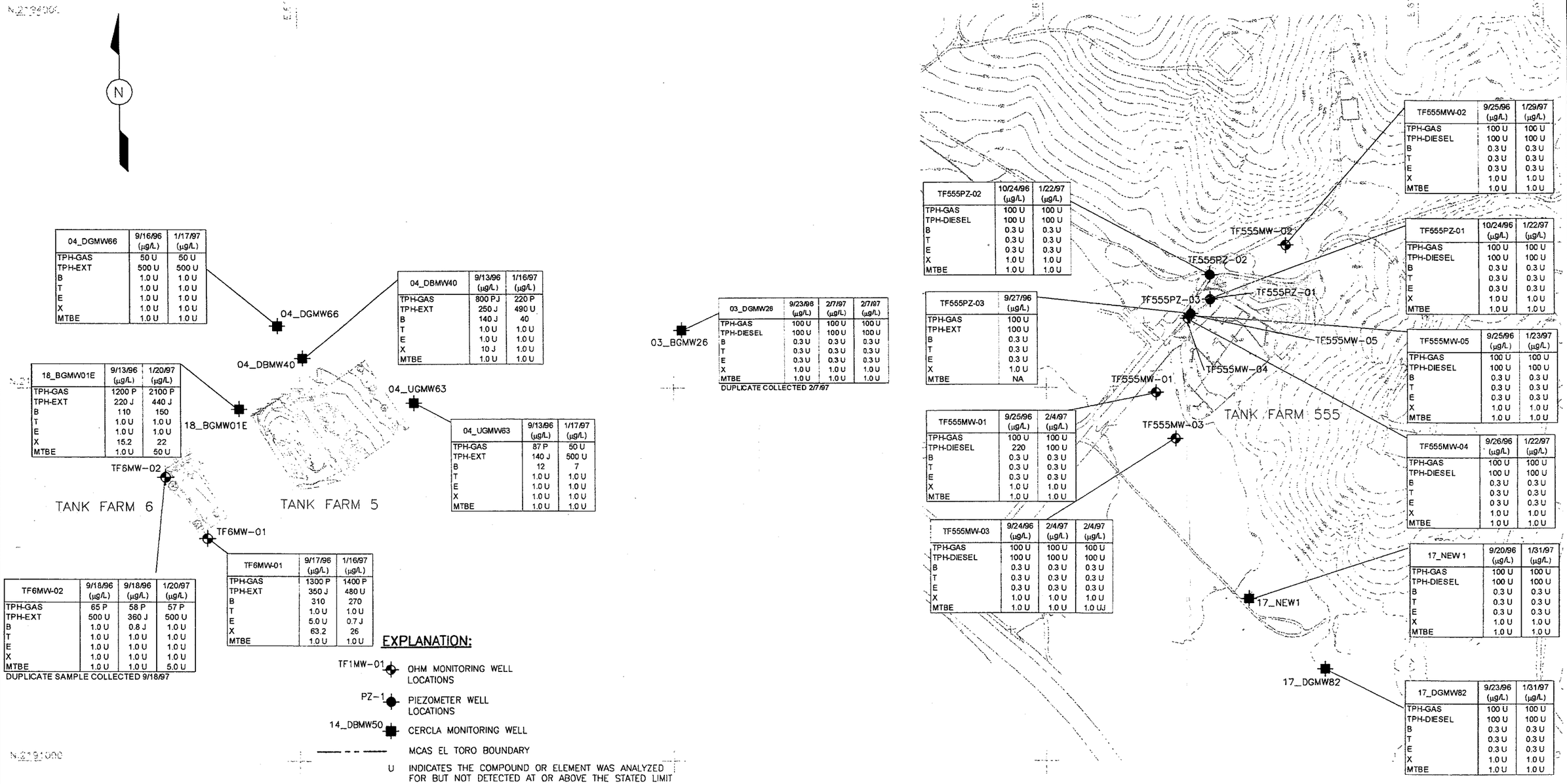
OHM Sample Number		96-TF555-W-252	97-TF555-W-412	96-TF555-W-255	97-TF555-W-403	96-TF555-W-249	97-TF555-W-409	97-TF555-W-410
Sample Location		TF555MW-01	TF555MW-01	TF555MW-02	TF555MW-02	TF555MW-03	TF555MW-03	TF555MW-03
Date Collected		09/25/96	2/4/97	09/25/96	1/29/97	09/24/96	2/4/97	2/4/97
	Unit							
Total Petroleum Hydrocarbons (CA LUFT-8015M)								
TPH As Diesel	µg/L	220	100 U	100 U	100 U	100 U	100 U	100 U
Metals (EPA 6010A)								
Aluminum	µg/L	NA	122 U	NA	50 U	NA	50.8 U	50 U
Arsenic	µg/L	NA	10 U	NA	10 U	NA	12.7	10 U
Calcium	µg/L	NA	55200	NA	85600	NA	71300	80400
Chromium	µg/L	NA	10 U	NA	10 U	NA	10 U	10 U
Iron	µg/L	1270	486	93	228	340	144	156
Magnesium	µg/L	NA	27800	NA	40500	NA	20400	23200
Manganese	µg/L	NA	371	NA	87.7	NA	13.7	15.9
Molybdenum	µg/L	NA	69.8	NA	50 U	NA	50 U	50 U
Nickel	µg/L	NA	40 U	NA	40 U	NA	40 U	40 U
Potassium	µg/L	4580	4080	5240	5100	4110	3750	4500
Selenium	µg/L	NA	14.4	NA	28.5	NA	36.8	21.8
Sodium	µg/L	NA	176000	NA	92100	NA	84400	97300
Zinc	µg/L	NA	20 U	NA	39.3	NA	20 U	20 U
EPA 7470A								
Mercury	µg/L	NA	0.2 U	NA	0.2 U	NA	0.217	0.2 U
General Chemistry								
pH (EPA 9045)	pH Units	7.4	NA	7.5	NA	7.4	NA	NA
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1291	NA	1103	NA	1007	1003
Total Hardness (EPA 130.1)	mg/L	NA	253	NA	381	NA	262	296
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	810	NA	810	NA	715	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	179	NA	10 U	NA	37	NA	NA
Chloride (EPA 300.00)	mg/L	NA	84	NA	165	NA	103	105
Fluoride (EPA 300.00)	mg/L	NA	1 U	NA	1 U	NA	1 U	1 U
Nitrate (EPA 300.00)	mg/L	2.45 J	1.0	2.74 J	2.25	18.7 J	15	15
Sulfate (EPA 300.00)	mg/L	NA	106	NA	100	NA	75	71
Alkalinity (EPA 310.1)	mg/L	473	NA	299	NA	227	NA	NA
Total Kjeldahl Nitrogen (EPA 351.2)	mg/L	0.1 U	NA	.1 U	NA	0.1 U	NA	NA
Sulfate (EPA 375.3)(EPA 375.4)	mg/L	52.3	NA	92	NA	38.9	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	10 U	NA	10 U	NA	19	10 U
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	0.05 U	NA	0.05 U	NA
Microbiology								
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	6700	NA	2000	NA	1800	NA	NA

Table 7-3 Cont'd
Summary of Reported Concentrations Table for Farm 555
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF555-W-261	97-TF555-W-394	96-TF555-W-258	97-TF555-W-398	97-TF555-W-396	97-TF555-W-392
Sample Location		TF555MW-04	TF555MW-04	TF555MW-05	TF555MW-05	TF555PZ-01	TF555PZ-02
Date Collected		09/26/96	1/22/97	09/25/96	1/23/97	1/22/97	1/22/97
	Unit						
Total Petroleum Hydrocarbons (CA LUFT-8015M)							
TPH As Diesel	µg/L	100 U	100 U	100 U	100 U	100 U	100 U
Metals (EPA 6010A)							
Aluminum	µg/L	NA	86.6	NA	2130	255	495
Arsenic	µg/L	NA	10 U	NA	10 U	10 U	10 U
Calcium	µg/L	NA	27200	NA	46700	121000	114000
Chromium	µg/L	NA	10 U	NA	23.3	10 U	10 U
Iron	µg/L	709	685	60.5	2600	239	599
Magnesium	µg/L	NA	28200	NA	42200	72300	47600
Manganese	µg/L	NA	66.4	NA	61.2	24.2	53
Molybdenum	µg/L	NA	50 U	NA	50 U	50 U	50 U
Nickel	µg/L	NA	40 U	NA	40 U	40 U	63.5
Potassium	µg/L	5970	6070	5310	7150	8130	4010
Selenium	µg/L	NA	5 U	NA	5 U	13 U	22 U
Sodium	µg/L	NA	156000	NA	126000	148000	99000
Zinc	µg/L	NA	20 U	NA	20 U	20 U	20 U
EPA 7470A							
Mercury	µg/L	NA	0.2 U	NA	0.328	0.2 U	0.2 U
General Chemistry							
pH (EPA 9045)	pH Units	8.0	NA	7.3	NA	NA	NA
Specific Conductance (EPA 120.1)	µmhos/cm	NA	952	NA	1080	1740	1310
Total Hardness (EPA 130.1)	mg/L	NA	184	NA	290	600	480
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	620	NA	795	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	10 U	NA	9	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	95.7	NA	133	374	204
Fluoride (EPA 300.00)	mg/L	NA	0.8	NA	1.03	0.68	0.69
Nitrate (EPA 300.0)	mg/L	0.5 U	0.2 U	1.53 J	0.99	3.20	3.78
Sulfate (EPA 300.00)	mg/L	NA	138	NA	126	93.1	84.2
Alkalinity (EPA 310.1)	mg/L	221	NA	247	NA	NA	NA
Total Kjeldahl Nitrogen (EPA 351.2)	mg/L	0.24	NA	0.12	NA	NA	NA
Sulfate (EPA 375.3)(EPA 375.4)	mg/L	144	NA	151	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	10 U	NA	10 U	10	10
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	0.05 U	NA	0.05 U	0.068	0.05 U
Microbiology							
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	1500	NA	2300	NA	NA	NA

Table 7-4
Summary of Reported Concentrations for Tank Farms 5 and 6
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF6-W-934	97-TF6-W-1528	96-TF6-W-938	96-TF6-W-939	97-TF6-W-1544	96-TF6-W-923	97-TF6-W-1540	96-TF6-W-922	97-TF6-W-1537	96-TF6-W-921	97-TF6-W-1532
Sample Location		TF6MW-01	TF6MW-01	TF6MW-02	TF6MW-02	TF6MW-02	18_BGMW01E	18_BGMW01E	04_UGMW63	04_UGMW63	04_DBMW40	04_DBMW40
Date Collected	Unit	09/17/96	1/16/97	09/18/96	09/18/96	1/20/97	09/13/96	1/20/97	09/13/96	1/17/97	09/13/96	1/16/97
Total Petroleum Hydrocarbons (CA LUFT-8015M)												
TPH As Gasoline	µg/L	1300 P	1400 P	65 P	58 P	57 P	1200 P	2100 P	87 P	50 U	800 PJ	220 P
TPH-Extractable	µg/L	350 J	480 U	500 U	360 J	500 U	220 J	440 J	140 J	500 U	250 J	490 U
Volatile Aromatic Compounds (EPA 8020)												
Benzene	µg/L	310	270	1.0 U	0.8 U	1.0 U	110	150	12	7	140 J	40
Ethylbenzene	µg/L	5.0 U	0.7 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	63.2	26	1.0 U	1.0 U	1.0 U	15.2	22	1.0 U	1.0 U	10 J	1.0 U
Volatile Organic Compounds (EPA 8260A)												
2-Hexanone	µg/L	NA	NA	NA	NA	10 U	10 U	10 UJ	10 U	10 U	13	10 U
Acetone	µg/L	NA	NA	NA	NA	10 U	1.7 J	10 UJ	10 U	10 U	1.7 J	10 U
Benzene	µg/L	NA	NA	NA	NA	5.0 U	88	110	12	3.4 J	90	22
Xylenes (Total)	µg/L	NA	NA	NA	NA	5.0 U	11.5	16	5.0 U	5.0 U	6.6 J	5.0 U
Metals (EPA 6010A)												
Arsenic	µg/L	NA	5.0 U	NA	NA	9.1	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	63	NA	NA	36	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	110000	NA	NA	64000	NA	NA	NA	NA	NA	NA
Iron	µg/L	3400	410	12000	22000	350	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	59000	NA	NA	44000	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	64	NA	NA	190	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	20 U	NA	NA	30	NA	NA	NA	NA	NA	NA
Potassium	µg/L	5800	2800	8600	9300	4100	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	74000	NA	NA	110000	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	28	NA	NA	12	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	NA	NA	22	NA	NA	NA	NA	NA	NA
(EPA 7470A)												
Mercury	µg/L	NA	0.39	NA	NA	0.20 U	NA	NA	NA	NA	NA	NA
General Chemistry												
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1300	NA	NA	1300	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1400	NA	NA	360	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.1	NA	7.7	7.8	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	780	NA	620	630	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	87	NA	38	39	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	370	NA	280	280	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	120	NA	NA	98	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	0.43	NA	NA	0.53	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.1 U	NA	0.15	0.14	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2) (EPA 353.3)	mg/L	5.4	6.3	3.5	3.6	1.4	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.060	0.030	0.14	0.16	0.030	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2) (EPA 375.3)	mg/L	100	54	91	120	39 J	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	15	NA	NA	10 U	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	4.3	NA	2.5	2.4	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	0.05	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA
Microbiology												
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	14000	NA	184000	325000	NA	NA	NA	NA	NA	NA	NA



04_DGMW66	9/16/96 (µg/L)	1/17/97 (µg/L)
TPH-GAS	50 U	50 U
TPH-EXT	500 U	500 U
B	1.0 U	1.0 U
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

04_DBMW40	9/13/96 (µg/L)	1/16/97 (µg/L)
TPH-GAS	800 PJ	220 P
TPH-EXT	250 J	490 U
B	140 J	40
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	10 J	1.0 U
MTBE	1.0 U	1.0 U

18_BGMW01E	9/13/96 (µg/L)	1/20/97 (µg/L)
TPH-GAS	1200 P	2100 P
TPH-EXT	220 J	440 J
B	110	150
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	15.2	22
MTBE	1.0 U	50 U

04_UGMW63	9/13/96 (µg/L)	1/17/97 (µg/L)
TPH-GAS	87 P	50 U
TPH-EXT	140 J	500 U
B	12	7
T	1.0 U	1.0 U
E	1.0 U	1.0 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

03_DGMW26	9/23/96 (µg/L)	2/7/97 (µg/L)	2/7/97 (µg/L)
TPH-GAS	100 U	100 U	100 U
TPH-DIESEL	100 U	100 U	100 U
B	0.3 U	0.3 U	0.3 U
T	0.3 U	0.3 U	0.3 U
E	0.3 U	0.3 U	0.3 U
X	1.0 U	1.0 U	1.0 U
MTBE	1.0 U	1.0 U	1.0 U

DUPLICATE COLLECTED 2/7/97

TF6MW-02	9/18/96 (µg/L)	9/18/96 (µg/L)	1/20/97 (µg/L)
TPH-GAS	65 P	58 P	57 P
TPH-EXT	500 U	360 J	500 U
B	1.0 U	0.8 J	1.0 U
T	1.0 U	1.0 U	1.0 U
E	1.0 U	1.0 U	1.0 U
X	1.0 U	1.0 U	1.0 U
MTBE	1.0 U	1.0 U	5.0 U

DUPLICATE SAMPLE COLLECTED 9/18/97

TF6MW-01	9/17/96 (µg/L)	1/16/97 (µg/L)
TPH-GAS	1300 P	1400 P
TPH-EXT	350 J	480 U
B	310	270
T	1.0 U	1.0 U
E	5.0 U	0.7 J
X	63.2	26
MTBE	1.0 U	1.0 U

TF555PZ-02	10/24/96 (µg/L)	1/22/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF555PZ-03	9/27/96 (µg/L)
TPH-GAS	100 U
TPH-EXT	100 U
B	0.3 U
T	0.3 U
E	0.3 U
X	1.0 U
MTBE	NA

TF555MW-01	9/25/96 (µg/L)	2/4/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	220	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF555MW-03	9/24/96 (µg/L)	2/4/97 (µg/L)	2/4/97 (µg/L)
TPH-GAS	100 U	100 U	100 U
TPH-DIESEL	100 U	100 U	100 U
B	0.3 U	0.3 U	0.3 U
T	0.3 U	0.3 U	0.3 U
E	0.3 U	0.3 U	0.3 U
X	1.0 U	1.0 U	1.0 U
MTBE	1.0 U	1.0 U	1.0 UJ

TF555MW-02	9/25/96 (µg/L)	1/29/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF555PZ-01	10/24/96 (µg/L)	1/22/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF555MW-05	9/25/96 (µg/L)	1/23/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

TF555MW-04	9/26/96 (µg/L)	1/22/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

17_NEW 1	9/20/96 (µg/L)	1/31/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

17_DGMW82	9/23/96 (µg/L)	1/31/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

EXPLANATION:

- TF1MW-01 — OHM MONITORING WELL LOCATIONS
- PZ-1 — PIEZOMETER WELL LOCATIONS
- 14_DBMW50 — CERCLA MONITORING WELL
- MCAS EL TORO BOUNDARY
- U — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED FOR BUT NOT DETECTED AT OR ABOVE THE STATED LIMIT
- J — INDICATES AN ESTIMATED VALUE
- R — QUALITY CONTROL INDICATES THE DATA IS NOT USABLE
- UJ — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED BUT NOT DETECTED. THE SAMPLE DETECTION LIMIT IS AN ESTIMATED VALUE.
- P — FUEL PATTERN DOES NOT MATCH THAT OF GASOLINE OR JP-5
- B — BENZENE
- T — TOLUENE
- E — ETHYLBENZENE
- X — XYLENES
- MTBE — METHYL TERTIARY BUTYL ETHER
- NA — NOT ANALYZED
- µg/L — MICROGRAMS PER LITER

GRAPHIC SCALE

400 0 200 400

(IN FEET)

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: B. COHEN — DATE: 03/10/97
CHECKED BY: [signature] — DATE: 9/25/97
APPROVED BY: [signature] — DATE: 9/25/97
PROJECT MANAGER — DATE:
AUTOCAD FILE No. 18292S22.DWG

TANK FARMS 555, 5 AND 6
TPH AND BTEX CONCENTRATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=400'	1	1	SW4168	18292	FIG 7-3	0

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Section 8
USTs 390 A and B

At USTs 390 A and B, four wells were measured for depth to water in December 1996. Three of the wells were OHM monitoring wells (T390MW-01, T390MW-02 and T390MW-03) and one was a CERCLA well (18_BGMW02E). See Figure 8-1, USTs 390A and B — Monitoring Well Location Map.

8.1 Groundwater Occurrence

Groundwater elevations across the site ranged from 220 feet msl to 226 feet msl. The groundwater gradient across the site is 0.012 ft/ft and the flow direction is to the west. The flow direction locally does not match the general trend of the other tank farms, however, when incorporated into the regional map, the trend relates with the overall groundwater flow across the Station (see Figure 2-1). Figure 8-2, USTs 390 A and B Groundwater Contour Map, presents a groundwater contour map of USTs 390 A and B. The figure also shows well locations in relations to the tanks.

8.2 Analytical Results

Section 4.1 summarizes laboratory methods for this sampling period and Table 8-1, Analytical Summary for USTs 390 A and B, identifies the laboratory analyses performed at USTs 390 A and B. Table 8-2, Summary of Reported Concentrations for Tank 390 A and B, presents the reported concentrations for USTs 390 A and B during the reported sampling events. Appendix C provides analytical results for all laboratory methods analyzed. Figure 8-3, USTs 390 A and B TPH and BTEX Concentration Map, exhibits the TPH, BTEX, and MTBE results from the August 1996 sampling event through the December 1996 sampling event.

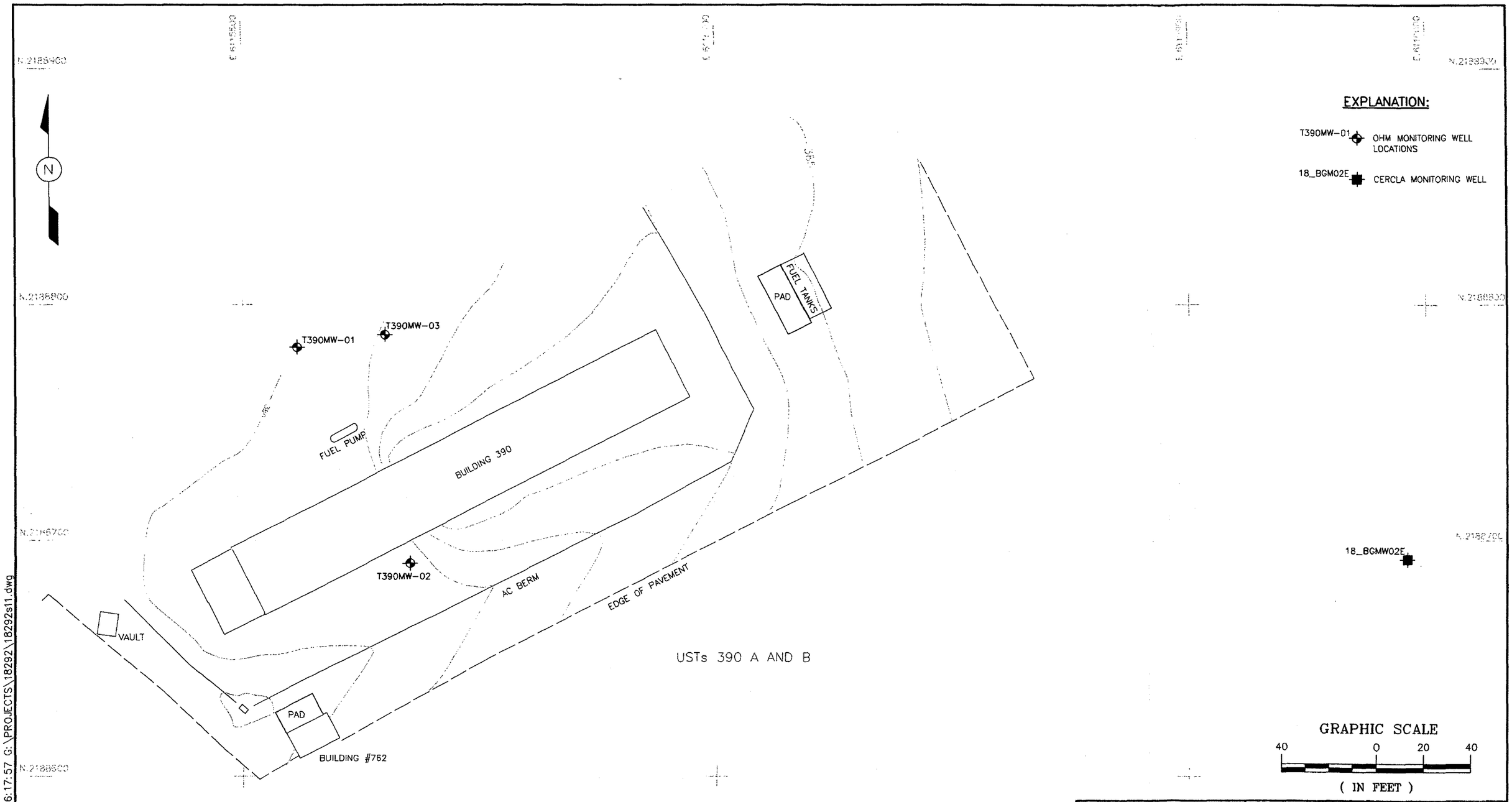
EXPLANATION OF ANALYTICAL TABLES

Analytical Methods

EPA Method 310.1 - alkalinity
EPA Method 350.1 / 350.2 / 350.3 - ammonia
EPA Method 8020 - BTEX and methyl tertiary butyl ether (MTBE)
EPA Method 300.0 - chloride
EPA Method 6010A - iron and potassium
EPA Method 353.2 - nitrate-nitrite
EPA Method 150.1 / 9045 - pH
EPA Method 300.0 / 375.2 /375.4 - sulfate
EPA Method 160.1 - total dissolved solids
SM 9215B / SM 9215C / SM 9215D - total heterotrophic plate count
EPA Method 351.2 / 351.4 - total Kjeldahl nitrogen (TKN)
EPA Method 415.1 / 415.2 - total organic compounds
EPA Method 8015/ CA LUFT Modified - total petroleum hydrocarbons as gasoline, JP5 and/or diesel
EPA Method 365.2 - total phosphorous
EPA Method 160.2 - total suspended solids
EPA Method 8260A - volatile organic compounds
EPA Method 8260A - volatile organic compounds

Abbreviations:

CA LUFT - California Leaking Underground Fuel Farms
EPA - Environmental Protection Agency
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
mg/L - milligrams per liter
µmhos/cm - micro mhmos per centimeter
cfu/ml - colony forming units per milliliter
U - not detected above or equal to the stated reported limit
J - estimated value
UJ - not detected at the estimated reporting limit
R - rejected
P - fuel pattern does not match that of laboratory standard
PJ - fuel pattern of the estimated value does not match that of the laboratory standard
NA - not analyzed



UST SITE 390 A AND B SURVEY DATA

WELL LOCATIONS	NAD 27 NORTHING	NAD 27 EASTING	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)
T390MW-01	548336.89	1554115.35	2188781.84	6115522.68	379.80	380.20
T390MW-02	NA	NA	2188690.09	6115571.36	380.41	380.87
T390MW-03	NA	NA	2188787.20	6115560.11	380.85	381.21
18_BGMW02E	548246.90	1554584.70	2188691.86	6775992.03	391.62	390.93

msl – mean sea level
NA – not available

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97
CHECKED BY: DATE: 9/25/97
APPROVED BY: DATE: 9/25/97
PROJECT MANAGER DATE
AUTOCAD FILE No. 18292S11.DWG

USTs 390 A AND B
MONITORING WELL LOCATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=40'	1	1	SW4168	18292	FIG 8-1	0

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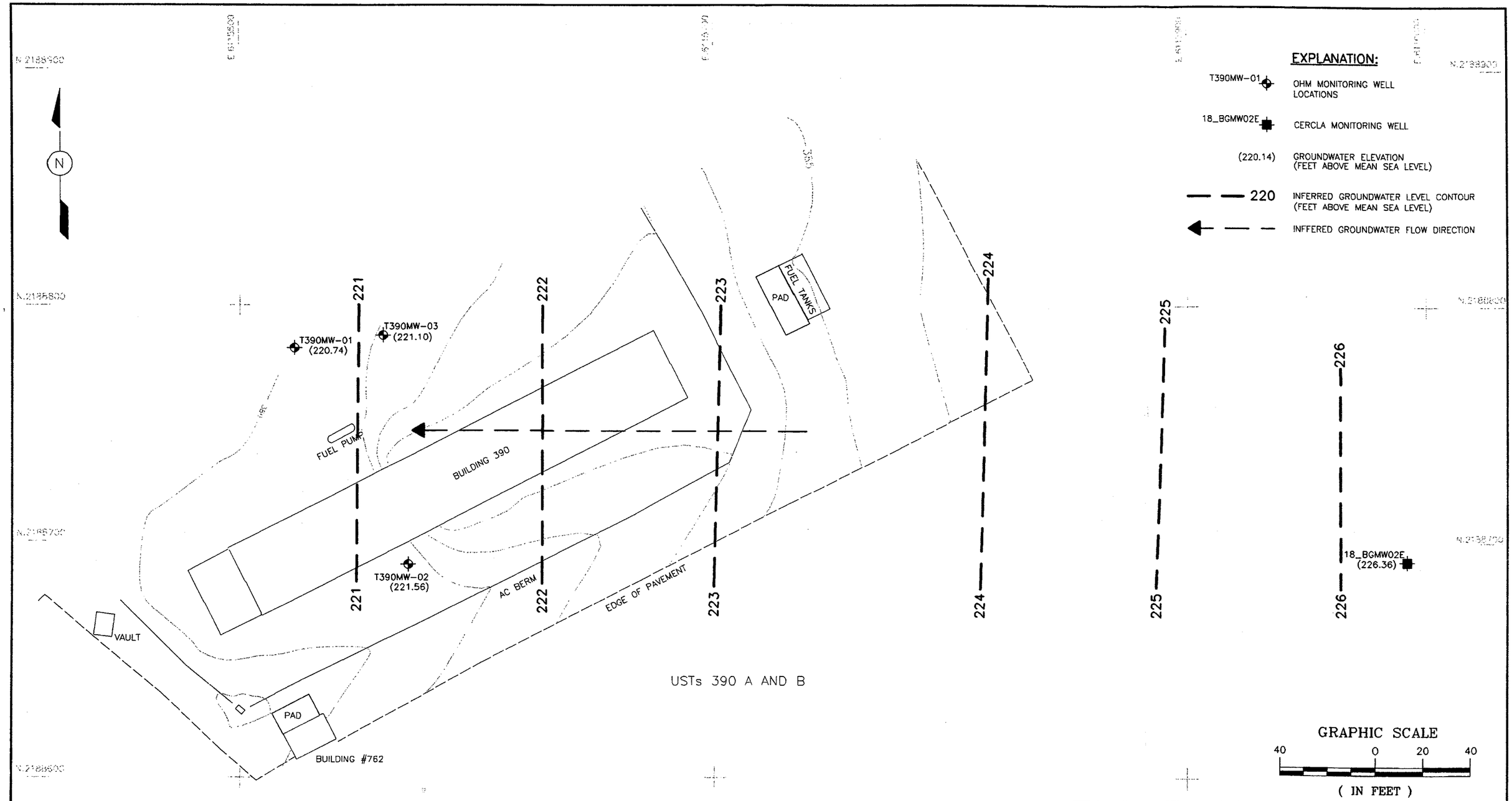


UST SITE 390 A AND B

WELL LOCATIONS	NAD 83 NORTHING	NAD 83 EASTING	TOP OF CASING ELEVATION (feet msl)	GROUND SURFACE ELEVATION (feet msl)	SCREEN INTERVAL (feet bgs)
T390MW-01	2188781.84	6115522.68	379.80	380.20	158-198
T390MW-02	2188690.09	6115571.36	380.41	380.87	151.5-191.5
T390MW-03	2188787.20	6115560.11	380.85	381.21	149-189
18_BGMW02E	2188691.86	6775992.03	391.62	390.93	198-233

msl - mean sea level
bgs - below ground surface

REVISIONS

REV. No.	DESCRIPTION	DATE	APPROVED

CONTRACT NAME: SWDIV

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
SAN DIEGO, CA

DRAWN BY: R. PIRMORADIAN DATE: 09/12/97
CHECKED BY: DATE: 9/25/97
APPROVED BY: DATE: 9/25/97
PROJECT MANAGER DATE

USTs 390 A AND B
GROUNDWATER CONTOUR MAP
DECEMBER 13, 1996

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

AUTOCAD FILE No. 18292046.DWG

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.
1"=40'	1	1	SW4168	18292	FIG 8-2

PIRMORADIAN

Table 8-1
Analytical Summary for USTs 390 A and B

Sample Number	Sample Location	Date Sampled	EPA 120.1	EPA 130.1	EPA 300.0	EPA 314A	EPA 325.2	EPA 340.2	EPA 353.3	EPA 365.2
97-T390-W-382	Trip Blank	1/21/97								
97-T390-W-383	Equipment Rinsate	1/21/97								
97-T390-W-384	T390MW-01	1/21/97	X		X	X				
97-T390-W-385	Equipment Rinsate	1/21/97								
97-T390-W-386	18_BGMW02E	1/21/97								
97-T390-W-387	Equipment Rinsate	1/21/97								
97-T390-W-388	Equipment Rinsate	1/21/97								
97-T390-W-389	T390MW-02	1/21/97	X		X	X				
97-T390-W-390	T390MW-03	1/21/97	X		X	X				

Table 8-1
Analytical Summary for USTs 390 A and B

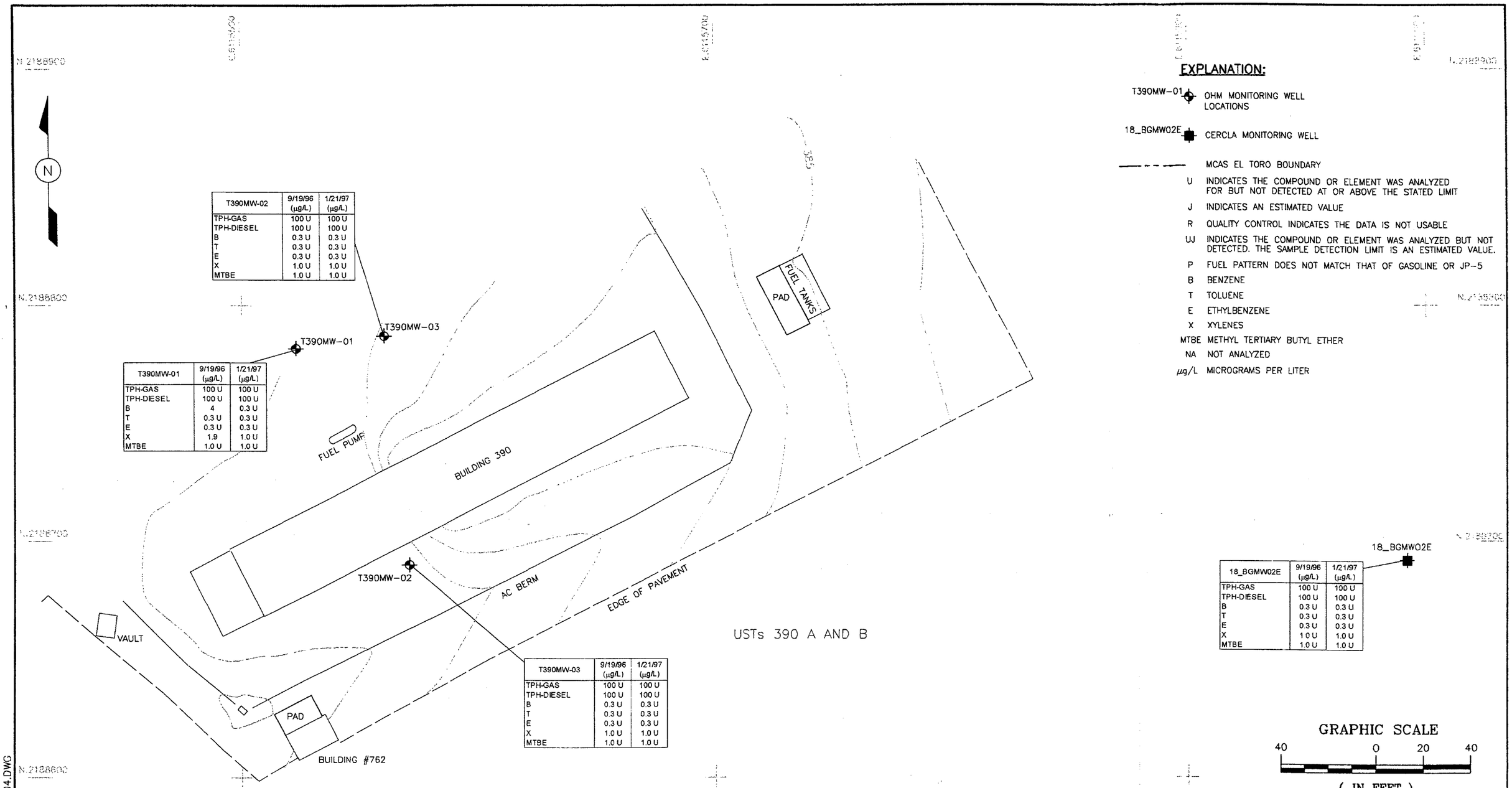
Sample Number	Sample Location	Date Sampled	EPA 375.3	EPA 375.4	EPA 405.1	EPA 410.4	EPA 450.1	EPA 6010A	EPA 7470A	EPA 8020
97-T390-W-382	Trip Blank	1/21/97								X
97-T390-W-383	Equipment Rinsate	1/21/97								X
97-T390-W-384	T390MW-01	1/21/97			X	X	X	X	X	X
97-T390-W-385	Equipment Rinsate	1/21/97								X
97-T390-W-386	18_BGMW02E	1/21/97								X
97-T390-W-387	Equipment Rinsate	1/21/97								X
97-T390-W-388	Equipment Rinsate	1/21/97								X
97-T390-W-389	T390MW-02	1/21/97			X	X	X	X	X	X
97-T390-W-390	T390MW-03	1/21/97			X	X	X	X	X	X

Table 8-1
Analytical Summary for USTs 390 A and B

Sample Number	Sample Location	Date Sampled	EPA 8260A	EPA 9020	EPA 9250	TPH AS DIESEL	TPH AS GASOLINE	TPH AS JP-5	TPH-EXTRACTABLE
97-T390-W-382	Trip Blank	1/21/97	X				X		
97-T390-W-383	Equipment Rinsate	1/21/97				X	X		
97-T390-W-384	T390MW-01	1/21/97				X	X		
97-T390-W-385	Equipment Rinsate	1/21/97				X	X		
97-T390-W-386	18_BGMW02E	1/21/97	X			X	X		
97-T390-W-387	Equipment Rinsate	1/21/97	X			X	X		
97-T390-W-388	Equipment Rinsate	1/21/97				X	X		
97-T390-W-389	T390MW-02	1/21/97				X	X		
97-T390-W-390	T390MW-03	1/21/97				X	X		

Table 8-2
Summary of Reported Concentrations for Tank 390 A and B
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-T390-W-200	97-T390-W-384	96-T390-W-224	97-T390-W-389	96-T390-W-203	97-T390-W-390
Sample Location		T390MW-01	T390MW-01	T390MW-02	T390MW-02	T390MW-03	T390MW-03
Date Collected		09/19/96	1/21/97	09/19/96	1/21/97	09/19/96	1/21/97
	Unit						
Volatile Aromatic Compounds (EPA 8020)							
Benzene	µg/L	4.0	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1.9	1 U	1 U	1 U	1 U	1 U
Metals (EPA 6010A)							
Aluminum	µg/L	NA	50 U	NA	50 U	NA	420
Calcium	µg/L	NA	103000	NA	107000	NA	109000
Iron	µg/L	1230	57.8	455	119	224	602
Magnesium	µg/L	NA	29400	NA	31500	NA	31900
Manganese	µg/L	NA	10 U	NA	11	NA	14.3
Molybdenum	µg/L	NA	69.8	NA	54.4	NA	68.1
Potassium	µg/L	4090	2940	3510	3020	4320	3480
Selenium	µg/L	NA	37	NA	5 U	NA	14.7
Sodium	µg/L	NA	128000	NA	126000	NA	141000
General Chemistry							
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1270	NA	1230	NA	1280
pH (EPA 150.1)	pH Units	7.4	NA	7.2	NA	7.8	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	905	NA	925	NA	1050	NA
Total Suspended Solids (EPA 160.2)	mg/L	14	NA	13	NA	16	NA
Chloride (EPA 300.00)	mg/L	NA	103	NA	100	NA	106
Nitrate (EPA 300.00)	mg/L	11.8	10.8	11.9	10.7	12.4 R	11.1
Sulfate (EPA 300.00)	mg/L	285	260	277	236	1 R	253
Alkalinity (EPA 310.1)	mg/L	183	NA	238	NA	170	NA
Total Hardness (EPA 314A)	mg/L	NA	378	NA	396	NA	403
Phosphorus, Total (EPA 365.2)	mg/L	0.05 U	NA	0.05	NA	0.05 U	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	4	NA	1 U	NA	6
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	10	NA	10 U	NA	14
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	1	NA	1	NA	1.0	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	0.05 U	NA	0.05 U	NA	0.07
Microbiology							
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	830	NA	3800	NA	12000	NA



T390MW-02	9/19/96 (µg/L)	1/21/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

T390MW-01	9/19/96 (µg/L)	1/21/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	4	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.9	1.0 U
MTBE	1.0 U	1.0 U

T390MW-03	9/19/96 (µg/L)	1/21/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

18_BGMW02E	9/19/96 (µg/L)	1/21/97 (µg/L)
TPH-GAS	100 U	100 U
TPH-DIESEL	100 U	100 U
B	0.3 U	0.3 U
T	0.3 U	0.3 U
E	0.3 U	0.3 U
X	1.0 U	1.0 U
MTBE	1.0 U	1.0 U

EXPLANATION:

T390MW-01 — OHM MONITORING WELL LOCATIONS

18_BGMW02E — CERCLA MONITORING WELL

MCAS EL TORO BOUNDARY

U — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED FOR BUT NOT DETECTED AT OR ABOVE THE STATED LIMIT

J — INDICATES AN ESTIMATED VALUE

R — QUALITY CONTROL INDICATES THE DATA IS NOT USABLE

UJ — INDICATES THE COMPOUND OR ELEMENT WAS ANALYZED BUT NOT DETECTED. THE SAMPLE DETECTION LIMIT IS AN ESTIMATED VALUE.

P — FUEL PATTERN DOES NOT MATCH THAT OF GASOLINE OR JP-5

B — BENZENE

T — TOLUENE

E — ETHYLBENZENE

X — XYLENES

MTBE — METHYL TERTIARY BUTYL ETHER

NA — NOT ANALYZED

µg/L — MICROGRAMS PER LITER

REVISIONS			
REV. No.	DESCRIPTION	DATE	APPROVED

PROJECT: SWDIV

DRAWN BY: B. COHEN — DATE: 03/10/97

CHECKED BY: [signature] — DATE: 9/25/97

APPROVED BY: [signature] — DATE: 9/25/97

PROJECT MANAGER — DATE

AUTOCAD FILE No.: 18292S21.DWG

OHM Remediation Services Corp.
A Subsidiary of OHM Corporation
IRVINE, CA

USTs 390 A AND B
TPH AND BTEX CONCENTRATION MAP

MARINE CORPS AIR STATION
EL TORO, CALIFORNIA

SCALE	SHEET	OF	DOCUMENT CONTROL No.	OHM PROJECT No.	DRAWING No.	REVISION
1"=40'	1	1	SW4168	18292	FIG 8-3	0

C:\CAD-DGNS\OHM\18292\18292S04.DWG

Section 9
Conclusions and Recommendations

9.1 Regional Groundwater Occurrence

Groundwater flow in the alluvial aquifer underlying the station is generally from southeast to northwest. The regional groundwater contour map (Figure 2-1) shows a general gradient of approximately 0.017 ft/ft from the southeast to the northwest. This decrease in gradient may be due to an increase in aquifer transmissivity or an increase in aquifer thickness to the north.

Based upon information gathered during the well installation program conducted from April through May 1996, OHM has tentatively identified a separate shallow bedrock aquifer system in the vicinity of Tank Farm 555. The hydraulic gradient in this area is approximately 0.033 ft/ft to the south and the water levels appear to drop over 140 feet between bedrock and alluvium.

9.2 Regional Analytical Results

Tank Farm 1, Tank Farm 2, Tank Farm 4, Tank Farm 5, and Tank Farm 6, showed varying levels of groundwater contamination by hydrocarbons. At Tank Farms 1 and 2 the results from OHM wells and CERCLA wells indicated the presence of VOCs in the form of 1,2 dichloroethane, carbon tetrachloride and trichloroethene (TCE). Tank Farms 3, 555 and USTs 390 A and B showed no evidence of groundwater contamination by hydrocarbons during this sampling event.

A summary of the analytical results for TPH and BTEX at each tank farm follows:

Tank Farm 1 — The December 1996 sampling event reported CERCLA Well 24_EX2 was slightly impacted with TPH as gasoline at 240 µg/L. This reported concentration is elevated from the previous OHM groundwater sampling event. CERCLA Well 18_DW135 was previously reported to be impacted with TPH extractables; however, there were no reported concentrations of TPH extractables in Well 18_DW135 during this sampling event.

Volatile organic compounds were reported at detectable concentrations at Tank Farm 1. Carbon tetrachloride was reported at TF1MW-01 at 19 µg/L, TF1MW-02 at 16 µg/L, 18_DW135 at 18 µg/L, 18_DBMW50 at 10 µg/L, and 24_EX2 at 2.4 µg/L. These reported concentrations were equivalent to previously reported concentrations by OHM and others. Trichloroethene was reported in Wells TF1MW-01, TF1MW-02, 18_DW135, 14_DBMW50, and 24_EX2. The reported concentrations ranged from 3.0 µg/L to 460 µg/L. The reported concentration of TCE in CERCLA Well 24_EX2 increased from 69 µg/L to 460 µg/L since the last groundwater monitoring event. OHM will continue to monitor the TCE concentrations in this area, in future groundwater sampling events.

Tank Farm 2 — The December 1996 groundwater sampling event reported that OHM monitoring wells were impacted with TPH as gasoline, JP-5, BTEX compounds, and VOCs.

TPH as gasoline was reported at a range of concentrations from 110 µg/L in Well 15_DBMW51 to 6700 µg/L in Well TF2MW-01. The reported concentrations were the equivalent or slightly elevated from the previous OHM sampling event.

TPH extractables were reported at concentrations that ranged from 340 µg/L (TF2MW-02) to 1100 µg/L (TF2MW-03). The reported concentrations in most cases were equivalent to the previous groundwater sampling event reported concentrations. However, the results from Well TF2MW-03 showed a slight rise in the reported concentration from 660 µg/L to 1100 µg/L.

The reported BTEX concentrations were benzene, which ranged from 0.9 µg/L in Well 13_DBMW49 to 890 µg/L in Well TF2MW-01, and xylenes which ranged from 1.9 µg/L in Well 13_UGMW32 to 130 µg/L in Well TF2MW-03. The reported BTEX concentrations were equivalent to the previous groundwater sampling event.

Tank Farm 3 — The December sampling event reported no detectable concentrations of petroleum fuel products or BTEX compounds in the analyzed groundwater samples. These findings are consistent with the previous OHM groundwater sampling event conducted in August 1996.

Tank Farm 4 — The December 1996 groundwater sampling event reported detectable concentrations of TPH as gas, TPH as diesel and BTEX compounds in OHM monitoring wells and CERCLA wells. However, the reported concentrations from this sampling event were notably lower.

In TF4MW-01 and TF4MW-01(dup) sampling event results reported a concentration of 300 µg/L of TPH as gasoline. During the previous OHM sampling event results reported a concentration of 1100 µg/L of TPH as gasoline in Well TF4MW-01.

During this sampling event, TPH as diesel was reported in Well TF4MW-03 at 70 µg/L. However, during the previous OHM sampling event, reported concentrations of TPH as diesel was detected in Well TF4MW-01 and Well TF4MW-03 at concentrations ranging from 170 µg/L to 6600 µg/L. TPH as diesel was not reported in Well TF4MW-01 during this sampling event.

The BTEX compounds reported were benzene and xylenes in Well TF4MW-01. Reported benzene concentrations were 120 µg/L in Well TF4MW-01 and 110 µg/L in Well TF4MW-01 (dup). The reported concentration of xylenes were 20 µg/L in Well TF4MW-01 and 18 µg/L in Well TF4MW-01 (dup). These concentrations were lower than reported concentrations from the previous groundwater report. Previously, benzene and ethylbenzene were reported in Well TF4MW-03. However, these compounds were not detected in Well TF4MW-03 during this sampling event.

Tank Farm 5 — The December 1996 sampling event results reported concentrations of TPH as gasoline, TPH extractables, and BTEX compounds in CERCLA wells.

The reported TPH as gasoline concentrations ranged from 220 µg/L in Well 04_DBMW40 to 2100 µg/L in Well 18_BGMW01E. The reported TPH extractable concentration was 440 µg/L in Well 18_DGMW01E. The reported BTEX compounds were benzene with concentrations ranging from 150 µg/L in Well 18DGMW-01E to 7 µg/L in Well 04_UGMW63, and xylenes with a reported concentration of 22 µg/L in Well 18DGMW-01E.

The reported concentrations of TPH as gasoline, TPH extractable, and BTEX compounds increased in this sampling event from the previous sampling event in CERCLA Well 18_BGMW01E, however, previously reported concentrations decreased in CERCLA Wells 04_UGMW63 and 04_DBMW40.

Tank Farm 6 — The December 1996 sampling event results reported detectable concentration of TPH as gasoline, and BTEX concentrations.

The reported TPH as gasoline concentrations ranged from 58 µg/L and 57 µg/L in Well TF6MW-02 and TF6MW-02 (dup) to 1400 µg/L in Well TF6MW-01. These reported concentrations were equivalent to TPH as gasoline detected during the previous groundwater sampling event.

BTEX compounds reported were benzene at 270 µg/L and xylenes at 26 µg/L in Well TF6MW-01. These reported concentrations are equivalent to previously reported detections.

Tank Farm 555 — The December 1996 sampling event results reported no detections of petroleum hydrocarbons and BTEX compounds. During the previous groundwater sampling event, there was only one reported detection of TPH as diesel in Well TF555MW-01 at 220 µg/L.

In USTs 390 A and B, the December 1996 sampling event results reported no concentrations of petroleum hydrocarbons and BTEX compounds. During the previous groundwater sampling event benzene was reported at 4.0 µg/L and xylenes were reported at 1.9 µg/L in Well T390MW-01.

Section 10
References

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Appendix A
Depth to Groundwater Logs

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well conditions, well cap, lock, well vault) make note of any unusual observations.
TF6MW-01	27-Aug-96		184.5-204.5	193.50		383.57	383.89	
	16-Sep-96			192.49		383.57	383.89	
	13-Dec-96		10:50	191.92		383.57	383.89	no locking cap, casing difference 4"
	16-Jan-97			191.61		383.57	383.89	
~~Dr~~	~~3/31/97~~	~~8:18~~						~~1" of water inside casing~~ Dr
TF6MW-01	3/31/97	0900		190.73	191.07			well NOT labeled / standing
—	—	—		—	—			water present (2" in). Labeled well
—	—	—		—	—			TF6MW01 (R)
TF6MW-01	5/14/97	1425		190.56	190.67			(R)
TF6MW-01	8/1/97	0830		190.52	190.88			(MR) OK
TF6MW-01	8/21/97	0730		190.58	190.87			(MR) OK

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF6MW-02	9-Sep-96		190 - 230	196.82		384.65	384.93	
	16-Sep-96			196.65		384.65	384.93	
	13-Dec-96	10:43		196.26		384.65	384.93	no locking cap, casing difference 3.7"
	20-Jan-97			196.25		384.65	384.93	
TF6MW-02	3/31/97	0855	[redacted]	194.20	194.49	[redacted]	[redacted]	B Standing water present (2') B
—	—	—	[redacted]	—	—	[redacted]	[redacted]	well not labeled
TF6MW-02	5/14/97	1335	[redacted]	194.97	195.30	[redacted]	[redacted]	B Standing water present
TF6MW-02	8/1/97	0803	[redacted]	194.91	195.22	[redacted]	[redacted]	MB OK
TF6MW-02	8/21/97	0740	[redacted]	194.94	195.24	[redacted]	[redacted]	MB OK

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
18_DGMW01E	13-Sep-96 13-Dec-96 17-Jan-97	11:30	205-225	203.65 203.26 203.10		392.08 392.08 392.08	392.08 392.08 392.08	casing difference 8"
18-BGMW01E	3/31/97	0843		202.11	NA			
18-BGMW01E	5/14/97	1325		201.86	NA			
18-BGMW01E	8/1/97	0889		201.78	NA			OK
18-BGMW01E	8/21/97	0750		201.81	NA			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
04_DBMW40	13-Sep-96 13-Dec-96 16-Jan-97	11:23	220-260	210.30 209.50 208.90		400.46 400.46 400.46	400.01 400.01 400.01	need slip cap, casing difference 4.9"
04-DBMW40	3/31/97	0930		208.53	NA			No well cap. Zip lock bag used. B
04-DBMW40	5/14/97	1307		208.40	NA			B well cap there.
04-DBMW40	8/1/97	0818		208.57	NA			MB OK
04-DBMW40	8/21/97	0800		208.50	NA			MR OK

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
04_UGMW63	13-Sep-96 13-Dec-96 17-Jan-97	11:15	235-275	210.40 209.68 209.10		404.13 404.13 404.13	403.42 403.42 403.42	casing difference 7"
04-UGMW63	3/31/97	0920		208.44	NA			V
04-UGMW63	5/14/97	1415		207.95	NA			VI
04-UGMW63	8/1/97	0829		208.24	NA			VII OK
04-UGMW63	8/21/97	0810		208.20	NA			VIII

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
04_DGMW66	17-Sep-96 13-Dec-96 17-Jan-97	11:35	250-290	211.90 210.56 210.08		401.57 401.57 401.57	401.11 401.11 401.11	no lock, slip cap, casing difference 5"
04_DGMW66	3/31/97	0835		209.72	NA			BZ
04-DGMW66	5/14/97	1300		209.69	NA			BZ
04-DGMW66	8/1/97	0814		209.88	NA			OK
04-DGMW66	8/21/97	0815		209.87	NA			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well conditions, well cap, lock, well vault) make note of any unusual conditions.
TF555MW-01	7-Aug-96		179-219	187.44		424.12	424.49	
	24-Sep-96			187.04		424.12	424.49	
	13-Dec-96	9:10			186.89	424.12	424.49	casing difference 4"
	4-Feb-97			185.60		424.12	424.49	
TF555MW01	3/31/97	8:50		185.22	185.52			No water inside casing (DW)
TF555MW01	5/14/97	1256		184.96	185.26			(TP)
TF555MW01	8/1/97	1020		184.01	184.41			(TP) OK
TF555MW01	8/21/97	0830		184.12	184.52			(MM)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions.
TF555MW-02	6-Aug-96		25-60	25.15		458.24	458.48	
	25-Sep-96			25.12		458.24	458.48	
	13-Dec-96	10:35		25.15	25.38	458.24	458.48	
	29-Jan-97			24.90		458.24	458.48	
TF555MW-02	3/31/97	8:03	NA		24.86			1/2" of water inside casing
TF555-MW02	5/14/97	1250	NA		25.00			
TF555-MW02	8/1/97	1050	NA		25.22			OK
TF555-MW02	8/21/97	0838	NA		25.21			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (Well conditions, well cap, lock, well vault) make note of any unusual observations.
TF555MW-03	7-Aug-96		180-220	184.50		422.91	423.37	
	24-Sep-96			183.95		422.91	423.37	
	13-Dec-96	9:25			183.88	422.91	423.37	casing difference 6"
	4-Feb-97			182.50		422.91	423.37	
TF555MW-03	3/31/97	8:42		182.12	182.62			No water inside casing
TF555MW03	5/14/97	1247		182.26	182.76			OK
TF555MW03	8/1/97	1024		180.89	181.38			OK
TF555MW03	8/21/97	0845		180.94	181.37			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF555MW-04	12-Aug-96		189.6-109.6	23.58		437.01	437.39	
	26-Sep-96			23.82		437.01	437.39	
	13-Dec-96	10:10			24.09	437.01	437.39	
	22-Jan-97			23.61		437.01	437.39	
TF555MW04	3/31/97	8:31	[redacted]	23.~~43~~ 63	24.02	[redacted]	[redacted]	DG
TF555MW04	5/19/97	1240	[redacted]	23.60	24.00	[redacted]	[redacted]	MB
TF555MW04	8/1/97	1111	[redacted]	42.45	42.82	[redacted]	[redacted]	MB SHOULD BE OK TF555MW-05
TF555MW04	8/21/97	0855	[redacted]	23.61	23.98	[redacted]	[redacted]	MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well conditions, well cap, lock, well vault) make note of any unusual observations.
TF555MW-05	28-Aug-96		49.5-64.5	42.55		437.63	437.99	
	25-Sep-96			42.56		437.63	437.99	
	13-Dec-96	10:15		42.58	42.94	437.63	437.99	
	22-Jan-97			42.42		437.63	437.99	
TF555MW05	3/3/97	8:27		42.46	42.85			1" of water inside casing (DW)
TF555MW05	5/14/97	1235		42.48	42.88			
TF555MW05	8/1/97	1120		23.61	23.98			SHOULD BE TF555MW04
TF555MW05	8/21/97	0900		42.46	42.83			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions
TF555PZ-01	24-Sep-96 13-Dec-96 22-Jan-97	10:20	25-50	25.74 25.89 25.70	26.50	441.99 441.99 441.99	442.62 442.62 442.62	Dry
TF555PZ-01	3/3/97	8:18		25.54	26.50			1" water inside casing
TF555PZ01	5/14/97	1230		25.62	26.48			MB
TF555PZ01	8/1/97	1105		25.71	26.34			MB OK
TF555PZ01	8/21/97	0905		25.68	26.31			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of an unusual observations
TF555PZ-02	24-Oct-96 13-Dec-96 22-Jan-97	10:27	25-50	29.22 29.56 29.40	30.14	445.12 445.12 445.12	444.55 444.55 444.55	Ay
TF555PZ-02	3/31/97	8:14		29.28	29.82			1" of water inside casing
TF555PZ02	5/19/97	1225		29.34	29.94			MB
TF555PZ02	8/1/97	1100		29.33	29.97			MB OK
TF555PZ02	8/21/97	0910		29.34	29.94			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of an unusual observations
TF555PZ-03	27-Sep-96 13-Dec-96		25-40	NM NM		445.12 445.12	444.55 444.55	no water in piezometer
TF555PZ-03	3/31/97	8:25		NM	NM			no water inside casing ~~Dry~~
TF555PZ03	5/14/97	1220		NM	NM			DRY MB
TF555PZ03	8/1/97	1110		NM	NM			DRY MB
TF555PZ03	8/21/97	0920		NM	NM			DRY MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MSL)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations
17_NEW1	20-Sep-96 13-Dec-96 31-Jan-97	8:30	186-226	184.70 183.69 182.90		431.95 431.95 431.95	431.36 431.36 431.36	casing difference 7.5"
17-NEW1	3/31/97	9:05		182.44	181.84			DW No water inside casing
17-NEW1	5/19/97	1215		182.40	181.80			MB
17-NEW1	8/1/97	0957		181.01	180.40			MB OK
17-NEW1	8/21/97	0928		181.40	180.80			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions
17_DGMW82	23-Sep-96 13-Dec-96 30-Jan-97	8:40	235-255	183.10 185.67 182.25		442.50 442.50 442.50	441.69 441.69 441.69	
17-DGMW82	3/31/97	9:17		184.84	183.86			
17-DGMW82	5/14/97	1211		184.62	183.64			
17-DGMW82	8/1/97	~~1440~~ 1000		183.72	183.74			
17-DGMW82	8/21/97	0940		183.76	183.78			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well conditions, well cap, lock, well vault) make note of any unusual conditions.
03_BGMW26	23-Sep-96 13-Dec-96 7-Feb-97	10:48	230-270	217.85 216.38	216.79	419.82 419.82 419.82	419.39 419.39 419.39	
03-BGMW26								
~~3/31/97~~	3/31/97	0958		215.82	215.26			R
03-BGMW26	5/14/97	1206		215.80	215.24			MR
03-BGMW26	8/1/97	~~1000~~ 1148		215.27	214.87			MR OK
03-BGMW26	8/21/97	0950		215.34	214.74			MR

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make not of any unusual observations.
T390MW-02	16-Sep-96		151.5-191.5	160.00		380.41	380.87	
	19-Sep-96			159.73		380.41	380.87	
	26-Sep-96			159.54		380.41	380.87	
	27-Sep-96			159.61		380.41	380.87	
	13-Dec-96	12:47		158.85		380.41	380.87	
	21-Jan-97			156.70		380.41	380.87	
T390MW-02	3/28/97	1410		158.00	158.46			Day inside casing (DW)
T390-MW-02	5/20/97	0950		157.42	158.08			(MR) ALL GOOD.
T390-MW-02	8/1/97	0851		157.06	157.56			(MR) OK
T390-MW-02	8/21/97	1040		157.10	157.60			(MR)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well, vault) note any unusual conditions
T390MW-01	5-Aug-96		158-198	160.28		379.80	380.20	
	19-Sep-96			159.90		379.80	380.20	
	26-Sep-96			159.70		379.80	380.20	
	27-Sep-96			159.79		379.80	380.20	
	13-Dec-96	12:33		159.06		379.80	380.20	casing difference 5"
	21-Jan-97			159.54		379.80	380.20	
T390MW-01	3/28/97	1408		158.18	158.52			Strong odor (B)
T390-MW-01	5/20/97	0928		157.82	158.24			NO ODOR (NB)
T390-MW-01	8/1/97	0842		157.29	157.72			NO ODOR (NB) OK
T390-MW-01	8/21/97	1048		157.16	157.56			(NB) OK

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions of the well
T390MW-03	18-Sep-96		149-189	161.40		380.85	381.21	
	19-Sep-96			160.70		380.85	381.21	
	26-Sep-96			160.40		380.85	381.21	
	27-Sep-96			160.46		380.85	381.21	
	13-Dec-96	12:40		159.75		380.85	381.21	casing difference 4"
	21-Jan-97			159.94		380.85	381.21	
T390MW-03	3/28/97	1415		158.80	159.18			B
T390-MW-03	5/20/97	0942		158.53	158.88			NB
T390-MW-03	8/1/97	0846		158.00	158.35			NB OK
T390-MW-03	8/21/97	1100		158.08	158.43			NB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	GS Elevation (feet MS)	Comments (well condition, well cap, lock well vault) make note of any unusual conditions of the well.
18_BGMW02E	19-Sep-96		198-223	165.61		391.72	390.97	
	27-Sep-96			166.19		391.72	390.97	
	13-Dec-96	1:00		165.36		391.72	390.97	casing difference 5.7"
	21-Jan-97			159.80		391.72	390.97	
18-BGMW02E	3/28/97	1400	[redacted]	164.24	NA	[redacted]	[redacted]	B
18-BGMW-02E	5/20/97	0919	[redacted]	163.87	NA	[redacted]	[redacted]	~~B~~ MB.
18-BGMW-02E	8/1/97	0859	[redacted]	163.31	NA.	[redacted]	[redacted]	~~VAD~~ OK
18-BGMW-02E	8/21/97	1115	[redacted]	163.38	NA	[redacted]	[redacted]	VAD

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions.
TF1MW-01	10-Sep-96 13-Dec-96 14-Jan-97	1:45	109.5-149.5	110.41 110.22 110.00	110.65	259.42 259.42 259.42	259.91 259.91 259.91	
TF1 MW-01	3/28/97	0740		109.31	109.73			well not labeled, Labeled it MW-01
TF1 MW-01	5/19/97	0850		109.57	110.03			
TF1mw-01	7/31/97	0934		109.99	110.42			
TF1-mw01	8/20/97	0900		109.97	110.40			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF1MW-02	23-Jul-96		110 -150	112.90		263.68	264.03	
	11-Sep-96			113.20		263.68	264.03	
	13-Dec-96	12:36		113.10	113.47	263.68	264.03	
	14-Jan-97			112.87		263.68	264.03	
TF1MW-02	3/28/97	0755		112.19	112.55			B
TF1MW-02	5/14/97	1030		112.47	112.77			B
TF1MW-02	5/19/97	0840		112.48	112.84			B
TF1MW-02	7/31/97	0927		112.84	113.22			
TF1MW-02	8/20/97	0910		112.88	113.18			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
18_DW135	6-Sep-96 13-Dec-96 14-Jan-97		115-135	116.85 117.00 116.75		268.32 268.32 268.32	269.00 269.00 269.00	
18_DW135	3/28/97	0835		115.98	116.61			well not labeled. Labeled well 18_DW135 (B)
—	—	—		—	—			Flush mounted well (B)
18_DW135	5/19/97	0920		116.20	116.88			(B)
18-DW135	7/31/97	0922		116.56	117.16			(M3)
18-DW135	8/20/97	0930		116.50	117.10			(M2)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
24_EX2	9-Sep-96 13-Dec-96 13-Jan-97	1:35	109-211	106.68 105.94 105.20		252.58 252.58 252.58	251.34 251.34 251.34	TOC is 1' above ground surface
(B)								
24_Ex2 ~~3/28/97~~	3/28/97	8:13		105.27	104.03			(DW)
24-EX2	5/14/97	1105		105.70	NA			(B) Casing above ground.
24-EX2	5/19/97	0900		105.71	NA			(B)
24-EX2	7/31/97	1108		106.09	NA			(MB)
24-EX2	8/21/97	0945		106.06	NA			(MB)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
18_BGMW103	10-Sep-96 13-Dec-96 14-Jan-97	1:35	395-495	125.30 107.05 106.90			252.15 252.15 252.15	251.22 251.22 251.22	Screen zoned in deeper aquifer make note of varying elevations.
18-BGMW103	3/28/97	0756		117.10	116.27	NA			Dw
18-BGMW103	5/14/97	1114		120.51	NA	NA - too deep			B casing is above ground.
18-BGMW103	5/19/97	0905		120.44	NA	NA - too deep			B
18-BGMW03	7/31/97	1100		123.08	NA	NA			
18-BGMW03	8/20/97	0958		123.01	NA	NA			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
14_DBMW50	6-Sep-96 13-Dec-96 10-Jan-97	12:22	120-160	119.45 119.60 118.50		270.84 270.84 270.84	270.28 270.28 270.28	
14_DBMW50	3/28/97	0810		118.60	NA			B
14-DBMW50	5/19/97	0915		118.80	NA			B
14-DBMW50	7/31/97	0916		119.18	NA			MB
14-DBMW50	8/20/97	1010		119.16	NA			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations
14_DGMW79	13-Dec-96	12:10	118-158	118.15			268.80	268.99	
14-DGMW79	3/28/97	0900		NA	NA	NA			Not on map. (B)
14-DGMW79	5/14/97	0935		NA	NA	NA			Could not find (B)
14-DGMW79	5/14/97	0955		117.29	117.51	164.75			(B) well under water, well not labelo
14-DGMW-79	7/31/97	1122		117.69	118.01	163.51			(B) well under water
14-DGMW-79	8/20/97	1020		117.71	118.03	163.51			(B)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF2MW-04	24-May-96 30-Aug-96 13-Dec-96 13-Jan-97	2:22	120-160	129.15 132.32 129.35 129.20	130.20		280.88 280.88 280.88 280.88	281.42 281.42 281.42 281.42	perhaps GS elevation
TF2MW-04	3/28/97	9:54		128.66	129.20	159.82			2" of standing water (DW)
TF2MW-04	5/19/97	1150		128.64	129.21	159.75			(R) Stand water present
TF2MW-04	7/31/97	0851		129.07	129.62	159.78			(MB) 1" standing water in well vault
TF2MW-04	8/21/97	1045		129.10	129.65	159.86			(MB) OK

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF2MW-02	16-May-96		115-155	127.75			278.80	279.53	
	30-Aug-96			127.35			278.80	279.53	
	13-Dec-96	2:30		127.75	128.51		278.80	279.53	
	28-Jan-97			127.24			278.80	279.53	
	31-Dec-96			127.60			278.80	279.53	
TF2MW-02	3/28/97	9:25		126.68	127.41	154.90			DW
TF2MW-02	5/19/97	1137		126.46	127.51	154.85			B
TF2MW-02	7/31/97	0841		127.13	127.89	154.79			MB
TF2MW02	8/21/97	1055		127.17	127.93	154.83			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF2MW-01	14-May-96		120-160	131.78		283.52	283.97	
	29-Aug-96			132.37		283.52	283.97	
	13-Dec-96	2:03		132.60		283.52	283.97	
	23-Dec-96			132.67		283.52	283.97	
TF2mw-01	3/28/97	9:00		131.58	132.03			4" of standing water (AW)
TF2MW-01	5/19/97	1105		131.42	132.21			Standing water present (B)
TF2-MW-01	7/31/97	0815		132.20	132.72			(MB)
TF2-MW-01	8/20/97	1105		132.21	132.73			(MB)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual well conditions.
TF2MW-03	20-May-96 13-Dec-96 24-Dec-96 10-Jan-97	1:56	120-160	128.20 129.44 129.15 128.80	129.77		279.67 279.67 279.67 279.67	280.32 280.32 280.32 280.32	
TF2MW-03	3/28/97	8:48		128.12	129.77	160.41			DW
TF2MW-03	5/19/97	1020		128.22	128.87	160.15			B well cap very hard to get off.
TF2-MW-03	7/31/97	0825		128.69	129.35	160.31			MB
TF2MW03	8/20/97	1115		128.68	129.34	160.31			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well conditions, well cap, lock, well vault) make note of any unusual well observations.
13_UGMW3	3-Sep-96 13-Dec-96 27-Dec-96	11:50	144-184	133.88 133.36	133.73		285.25 285.25 285.25	285.40 285.40 285.40	
13-UGMW32	3/28/97	0930		132.73	132.91	188.45			Aphid-like insect infestation. B1
13-UGMW32	5/14/97	1110		132.91	133.20	189.10			B
13-UGMW32	7/31/97	0800		133.50	133.77	189.41			
13-UGMW32	8/20/97	1130		133.50	133.77	189.41			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions.
13_DBMW49	4-Sep-96 13-Dec-96 27-Dec-96	11:35	142-182	129.43 128.58 128.38		280.67 280.67 280.67	280.04 280.04 280.04	
13-DBMW49	3/28/97	0920		128.03	NA			B
13-DBMW49	5/19/97	1125		128.40	NA			B
13-DBMW-49	7/31/97	0810		129.02	NA			MMP
13-DBMW-49	8/20/97	1145		129.00	NA			MMP

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
13_DGMW78	4-Sep-96 13-Dec-96 10-Jan-97	11:25	127-167	125.00 125.06	125.78	B 172.72	276.16 276.16 276.16	276.42 276.42 276.42	
13-DGMW78	3/28/97	0905		124.40	124.68	~~172.78~~			B
13-DGMW79	5/19/97	1015		124.51	124.81	171.72			B
13-DGMW-79	7/31/97	0834		124.96	~~124.96~~ 125.26	171.79			MP
13-DGMW-79	8/20/97	1200		124.95	125.25	179.78			MP

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
15_DBMW51	5-Sep-96 13-Dec-96 20-Dec-96	12:05	125-165	119.80 119.92 119.68		(B) 6	269.45 269.45 269.45	269.79 269.79 269.79	
15-DBMW51	3/28/97	0850		118.64	119.13	169.~~A~~5			well cap missing. Standing water
—	—	—		—	—	—			surrounding well. (B)
15-DBMW51	5/19/97	0931		118.85	119.31	169.60			(B) Standing water present.
15-DBMW51	7/31/97	0906		119.22	119.69	169.52			(B)
15-DBMW51	8/20/97	1215		119.24	119.71	169.51			(B)

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions.
TF3MW-01	31-Oct-96		169.5-209.5	178.47			332.86	333.45	
	5-Nov-96			178.45			332.86	333.45	
	13-Dec-96		1:40	177.88			332.86	333.45	
	20-Jan-97			177.41			332.86	333.45	
TF3MW-01	3/28/97	1118		176.15	177.34	209.15			1/2" of water inside casing DW
TF3MW01	5/20/97	0955		176.80	177.20				MB OK
TF3MW01	7/31/97	1254		177.28	177.83	208.98			MB OK
TF3MW01	8/21/97	1210		177.20	177.85	209.99			MB

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF3MW-02	13-Aug-96		159-199	165.95			318.38	319.36	
	12-Sep-96			166.10			318.38	319.36	
	13-Dec-96	1:25		166.02			318.38	319.36	Casing difference 1"
	15-Jan-97			165.70			318.38	319.36	
TF3MW-02	3/28/97	10:58		164.77	165.75	197.99			DW
TF3MW-02	5/20/97	1000		164.94	165.92				[illegible]
TF3MW-02	7/31/97	1235		165.34	166.33	197.86			[illegible]
TF3MW-02	8/21/97	1218		165.26	166.25	197.92			[illegible]

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF3MW-03	27-Aug-96		165.5-205.5	193.50			329.13	329.92	
	18-Sep-96			175.60			329.13	329.92	
	13-Dec-96			175.53			329.13	329.92	casing difference 11"
	15-Jan-97			175.33			329.13	329.92	
	16-Jan-97			175.33			329.13	329.92	
TF3MW-03	3/28/97	11:06		174.34	175.13				DW
TF3MW-03	5/20/97	1010		174.58	175.37				MR
TF3MW-03	7/31/97	1248		174.72	175.51				MB
TF3MW-03	8/21/97	1030		174.70	175.49				MR

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual conditions.
18_BGMW12	16-Dec-96	8:50	165-205	154.54	154.90		304.48	304.89	
18-BGMW12	3/28/97	1030		NA	NA	NA			Could not find (B)
18-BGMW12	5/20/97	1020		NA	NA	NA			(MR)
18-BGMW12	8/21/97	1300		NA	NA	NA			[illegible]

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF4MW-01	9-Sep-96		201-241	206.04			378.84	379.29	
	27-Sep-96			205.91			378.84	379.29	
	16-Dec-96	8:12		205.62	206.05		378.84	379.29	
	31-Dec-96			205.29			378.84	379.29	
TF4MW-01	3/28/97	1155		204.36	204.81	238.30			well not labeled. Labeled TF4MW-01 (B)
									4 inches of standing water. (B)
TF4MW-01	5/20/97	1026		204.02	204.51				MR
TF4MW-01	7/31/97	1335		204.77	205.22	238.22			MR OK
TF4MW01	8/21/97	1310		204.76	205.20	238.26			MR

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF4MW-02	16-Sep-96 4-Oct-96 16-Dec-96 31-Dec-96	8:25	201-241	210.80 208.28 209.20 208.84	209.42		384.97 384.97 384.97 384.97	385.27 385.27 385.27 385.27	
TF4MW-02	3/28/97	1207		208.11	NA	244.45			DW well not labeled
~~TF4MW-02~~	~~5/20/97~~	~~1030~~		~~208.57~~					1½ inch water above casing. water was bailed out & measurement was taken. B DW
TF4MW02	5/20/97	1030		208.59	208.86				
TF4MW-02	7/31/97	1400		208.41	208.68	244.19			OK
TF4MW02	8/21/97	1318		208.44	208.71	244.20			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	Total Depth (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
TF4MW-03	3-Sep-96 3-Oct-96 16-Dec-96 6-Jan-97	8:00	201-241	208.42 209.64 208.00 207.71	208.45		384.07 384.07 384.07 384.07	384.53 384.53 384.53 384.53	
TF4 mw-03	3/28/97	1140		206.77	207.25	241.50			well Not labeled- Labeled TF4mw-03
TF4MW03	5/20/97	1035		206.22	206.80				
TF4mw-03	7/31/97	1347		207.08	207.56	241.95			OK
TF4mw-03	8/21/97	1330		206.99	207.47	241.98			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
18_BGMW16	2-Oct-96 16-Dec-96 30-Dec-96	9:16	223-263	216.18 216.04 215.60		376.58 376.58 376.58	375.82 375.82 375.82	casing difference 6 .75 "
18_BGMW16	3/28/97	1055		214.62	NA			No pipe in well; duct tape over hole in well cap
18-BGMW-16	5/20/97	1030		214.69	NA			New Well Cap on Well
18-BGMW-16	7/31/97	1328		215.04	NA			OK
18-BGMW-16	8/21/97	1345		215.08	NA			

Water Level Measurements and Groundwater Elevations
MCAS El Toro, Santa Ana, California

Well Number	Date Measured	Time Sampled	Screen Interval (feet bgs)	Depth to Water TOC (feet bgs)	Depth to Water GS (feet bgs)	TOC Elevation (feet MS)	Ground Surface Elevation (feet MS)	Comments (well condition, well cap, lock, well vault) make note of any unusual observations.
20_UGMW36	7-Oct-96 16-Dec-96 30-Dec-96	9:08	183-223	184.76 185.52 185.11		338.70 338.70 338.70	338.12 338.12 338.12	casing difference 5.75 "
20_UGMW36	3/28/97	1030		184.07	NA			No pipe or "T"; hole in well cap. (B)
20-UGMW36	5/28/97	1010		184.10	NA			New Well Cap on (MB)
20-UGMW-36	7/31/97	1321		184.36	NA			(MB) ok
20-UGMW-36	8/21/97	1400		184.32	NA			(MB)

Appendix B
Groundwater Sampling Logs

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: Tank Farm 1 El Toro
Well number: TF1-MW-01
Job number: 17486

Total well depth 150.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/14/97
Static water level (ft)* 110.00
Standing water column (ft) 40
Amt. one well vol (gal) 26
Total gal to be purged _____
Development method —
Presampling purging method ½ hp Grundfos
Sampling method ½ hp Grundfos Pump

(2 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1020								MOB to site	MB
1025								Setup site, Sound Well	MB
1030								Take Rinsate	MB
1035								Install Pump	MB
1110	2	2.99	8.45	69.3	3.27	Ø	Baseline	Start Pump/Clear No Odor	MB
1123	26	2.93	7.84	72.9	5.46	Ø		Clear No Odor	MB
1136	52	2.91	7.83	73.4	4.36	Ø		" " "	MB
1151	78	2.99	7.84	73.3	2.78	Ø		" " "	MB
1158								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 1
Well number: ~~FT~~ TF1-MW-02
Job number: 17486

Total well depth 150.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/14/97
Static water level (ft)* 112.87
Standing water column (ft) 37.13
Amt. one well vol (gal) 25
Total gal to be purged ____
Development method —
Presampling purging method 1/2 hp Grundfos Pump
Sampling method 1/2 hp Grundfos Pump

(____GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	°C TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0805								MOB to site	MB
0815								Set up site	MB
0820								take Rinsate	MB
0830								install Pump	MB
0900	2	2.98	9.32	63.9	3.62		BASELINE	start Pump	MB
0912	25	2.97	9.24	67.3	5.01			Clear, NO ODOR	MB
0925	50	2.90	8.75	67.2	2.74			" " "	MB.
0938	75	2.96	8.76	67.5	1.44			CLEAR, NO ODOR	MB.
0945								Sample Well	

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 1
Well number: 18DMW-135
Job number: 17486

Total well depth 135.80
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/14/97
Static water level (ft)* 116.75
Standing water column (ft) 19.05
Amt. one well vol (gal) 17
Total gal to be purged ____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(2 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1230								MOB to Well	MB
1235								Setup site	MB
1240								Sound well Prepare for Rinsate	MB
1245								Take Rinsate	MB
1255	2	2.29	8.29	70.0	24.9	Ø	Base Line	Start Pump/Clear No ODOR	MB
1304	17	2.89	8.03	71.1	16.5	Ø		Clear NO ODOR	MB
1312	34	2.80	8.04	71.1	5.24	Ø		Clear NO ODOR	MB
1320	51	2.88	8.09	70.9	2.40	Ø		Clear NO ODOR	MB
133								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: Tank Farm 1
Well number: 14DBMW-50
Job number: _____

Total well depth 166.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) _____
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 1/10/97

Static water level (ft)* 118.50
Standing water column (ft) 47.50

Amt. one well vol (gal) 31
Total gal to be purged _____

Development method _____
Presampling purging method _____
Sampling method _____

(2 GPM)

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1250								MOB to TF1	MB
1300	2	OFF SCALE	7.89	73.7	15.9	0	Baseline	Start Pump/Clear No odor	MB
1316	31	" "	7.80	78.3	69.3	0		Clear /NO ODOR	MB
1333	62	" "	7.83	77.9	10.1			" " "	MB
1350	93		7.84	77.5	4.9			" " "	MB
1400								Sample	MB

Sample & FD

GROUNDWATER SAMPLING LOG

Client: SCUDDV
Site: TANK FARM
Well number: 18DMW103
Job number: 17486

Total well depth 500 ft.
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/14/97
Static water level (ft)* 106.90
Standing water column (ft) 393.10
Amt. one well vol (gal) 257
Total gal to be purged 771
Development method N/A.
Presampling purging method 3" Grundfos pump
Sampling method 3" Grundfos pump
(5 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level .653

0800 START

TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	TURBIDITY	DTW (ft)	DO%	COMMENTS	FIELD TECHNICAIN
0808	40	0.716	8.60	21.94	>99.9	110	-0.8	DKBlk, Silty	CB
0811	55	0.920	7.52	24.91	>99.9	147	-0.8	water went Black, Clear, and silty gray.	CB.
0825	125	0.979	7.29	25.36	>99.9(420)	150.5	34.4	Silty Gray no odor	CB.
0852	260	1.011	7.23	25.55	255	148.8	53.1	Red Silty, No odor.	CB
0918	390	1.017	7.20	25.68	301	148.0	60.9	Cloudy, no odor	CB.
0933	465	1.017	7.20	25.69	299	147.0	58.7	Cloudy, no odor	CB.
0948	540	1.015	7.19	25.77	94.1	146.5	58.6	Cloudy, no odor	CB
0958	590	1.016	7.17	25.83	134	146.5	63.0	Cloudy, no odor	CB
1008	640	1.017	7.17	25.88	>99.9	146.5	62.9	Cloudy, no odor	CB.
1010	650	1.017	7.17	25.89	>99.9	146.5	62.7	" "	CB
1012	660	1.017	7.17	25.88	>99.9	146.5	62.1	" "	CB
1014	670	1.017	7.17	25.89	>99.9(600)	146.5	61.2	" "	CB
Pump off 1024	720	1.015	7.17	25.91	>100	146.5	61.2	" "	CB
1030 pump on	760	1.003	7.17	25.52	>100	131.0	56.2	" "	CB
1150	820	1.003	7.17	25.73	63.6	132.5	61.5	" "	CB
1210	920	1.008	7.16	25.84	>100(300)	133.0	63.1	" "	CB
1230	1020	1.007	7.16	25.90	65.1	133.0	64.2	" "	CB
1250	1120	1.005	7.15	25.88	69.1	133.20	64.1	" "	CB
1255	1145	1.009	7.16	25.89	58.9	133.20	62.7	" "	CB.

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: Tank Farm 1 El Toro
Well number: 24EX2
Job number: 174866

Total well depth 212.30
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) _____
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 1/13/97

Static water level (ft)* 105.20
Standing water column (ft) 107.10

Amt. one well vol (gal) 68
Total gal to be purged _____

Development method —
Presampling purging method 1/2 hp Grundfos Pump
Sampling method 1/2 hp Grundfos Pump

(5 GPM)

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0830								MOB to site	
0850								Arrived at site, Radio'ed	Sierra 2
~~0940~~								Heavy Rains took cover till Rains	
								stopped	
0940								Resumed Work sound well	MB
1000								Take Rinsate	MB
1010								Install Pump @ 200'	MB
1045	5	[redacted]	7.52	71.6	137.	Ø	Baseline	Start Pump.	MB
1100	68	[redacted]	7.88	71.7	15.5	Ø		Clear, No odor	MB
1114		2.46	7.91	70.9	8.1	Ø		Clear, No odor	MB
1128		2.46	7.94	71.3	4.38	Ø		Clear, No odor	MB
1135								Sample	

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 2
Well number: ~~13UGMW-32~~ TF2-MW-01
Job number: 17486

Total well depth 160.10
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged _____
Vol per ft. casing (gal) _____
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 12/23/94
Static water level (ft)* 132.67
Standing water column (ft) 27.43
Amt. one well vol (gal) 18
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(2.5 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	D.O.%	COMMENTS	FIELD TECHNICAIN
1200	0	—	—	—	—	—	—	~~Sto~~ Set up Pump	MB
1225	2	2.88	7.56	24.94	6.51	0	2.4	BASELINE	MB
1235	18	2.93	7.44	25.33	5.04	—	-0.9		BS/MB
1245	36	2.99	7.23	25.49	5.0		4.8		MB
1255	54	3.08	7.21	25.58			0.8		MB
1300	—	—	—	—	—	—	—	Sample	

Resample.

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: Tank Farm 2
Well number: MW-d
Job number: 17486

Total well depth 150.0 ft
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 1 volume
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/17/97
Static water level (ft)* 110.00 ft
Standing water column (ft) 30 ft

Amt. one well vol (gal) 20
Total gal to be purged 20
Development method N/A
Presampling purging method 2" pump
Sampling method 2" Grundfos pump

(½ GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

0924 TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	N/ PID	DO %	COMMENTS	FIELD TECHNICAIN
0926	1	3.53	6.84	23.32	34.5	N/A	12.5	odor Sulfur - Dark Gray	CB
0930	3	3.53	7.04	23.71		N/A	6.4	odor, Sulfur, Cloudy	CB
0932	4	3.51	7.04	23.67	28.5	N/A	11.7	" "	CB
0939	7	3.53	6.51	25.09	17.6	N/A	11.8	" "	CB
0944	10	3.67	6.86	25.50	13.4	N/A	6.5	odor/Sulfur Dark Gray	CB
0949	15	3.66	6.85	25.73	9.7	N/A	4.0	" " "	CB
0954	20	3.68	6.83	25.73	8.4	N/A	3.0	" " "	CB

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: TF2
Well number: MW-02
Job number: 17486

Total well depth 155.0
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 12/31/96

Static water level (ft)* 127.6
Standing water column (ft) 27.4

Amt. one well vol (gal) 40.9
Total gal to be purged ____

Development method NA
Presampling purging method Reed flow
Sampling method 2" grundfos reed flow

(3 GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 27.4 x 1.496 = 40.9

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
0945	—	—	—	—	—	—	—	Arrived at site. Sounded	B
	—	—	—	—	—	—	—	well.	B
1020	—	—	—	—	—	—	—	Rinsate taken	B
1035	—	—	—	—	—	—	—	Dump Started	B
1040	4	3.43	4.42	25.19	24	—	-0.3	Baseline; clear; no odor	B
1054	45	3.41	4.57	25.19	10.4	—	2.0	Clear, No odor	B
1108	86	3.39	5.74	25.20	7.1	—	1.8	Clear, No odor	B
1122	127	3.38	5.52	25.21	5.0	—	1.0	Clear, No odor	B
1125	—	—	—	—	—	—	—	Sample taken	B

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK farm 2
Well number: TF2-MW-02
Job number: ~~178~~ 17486

Total well depth 155.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/28/97
Static water level (ft)* 127.24
Standing water column (ft) 27.76

Amt. one well vol (gal) 31
Total gal to be purged _____
Presampling purging method 1/2 hp Grund Fos
Sampling method 1/2 hp Grundfos Pump

Development method —

(_____GPM)

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1005								MOD to TF2-MW-02	MB
1015								Setup Rig + Site	MB
1030								take Rinsate	MB
1035								install Pipe + Pump	MB
								Start Pump	MB
								Baseline Reading/	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: Tank Farm 2
Well number: TF2-MW-03
Job number: 17484

Total well depth 161.43
Well diameter 6"
Borehole diameter 12"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 12/24/96
Static water level (ft)* 129.15
Standing water column (ft) 32.28
Amt. one well vol (gal) 48
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
(3 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level
CV = 1.476

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
0730	—	—	—	—	—	—	—	MOB to TANK FARM 2	MB
0750	—	—	—	—	—	—	—	Setup site	MB
0820	—	—	—	—	—	—	—	take Rinsate	MB
0845	5	4.35	6.81	24.75	7.32	—	5.2	BASELINE	BS/MB
0901	48	3.56	6.75	25.13	2.57	—	0.5	Clear, odorless	BS/MB
0917	96	3.56	6.71	25.16	1.31	—	-1.3	clear, odorless	BS
0933	144	3.58	6.70	25.22	0.95	—	-1.9	clear, odorless	B
0940	—	—	—	—	—	—	—	sample taken	B/MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 2
Well number: TF2-MW-03
Job number: 17486

Total well depth 160.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/10/97
Static water level (ft)* 128.80
Standing water column (ft) 31.20
Amt. one well vol (gal) 46
Total gal to be purged —
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
(2.5 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level
CV = 1.469

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1015								Setup up site, Sound	MB
								Well Prepare for Rinsate	
1030								take Rinsate	↓
1040 ~~1035~~								Install Pump @ 150'	MB
1103								Pump Installed start Pump	MB
1110 ~~1050~~	2	4.60	7.49	75.4	2.38	0		Baseline Reading / Clear	MB
1128	46	3.99	7.46	74.3	0.60	0		no odor / clear	MB.
1146	92	3.88	7.44	73.5	0.43	0		" " "	MB
1205	138	3.85	7.46	73.4	0.39	0		" " "	MB
1215								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: Tanner Farm 2
Well number: MW-04
Job number: 17486

Total well depth 160.00
Well diameter 6"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.58 ~~2.0~~ gal/Ft
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/13/97

Static water level (ft)* 129.20
Standing water column (ft) 30.80

Amt. one well vol (gal) 46
Total gal to be purged 150

Development method N/A
Presampling purging method 2" Grundfos
Sampling method: Grundfos 2"

(2½ GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
0931	7.5	2.77	6.98	23.68	7.5	N/A	13.9	Sulfer Smell, Clear	CB
0938	25	3.00	6.89	24.26	6.3		7.6	Sulfer Smell Clear	CB
0943	37.5	3.00	6.85	24.48	3.4		5.6	Sulfer Smell, Clear	CB
0948	50	2.99	6.83	24.63	3.0		4.8	" " "	CB
0953	62.5	2.98	6.81	24.64	2.1		3.3	" "	CB
1003	87.5	2.96	6.79	24.86	1.9		-0.1	" "	CB
1013	112.5	2.95	6.79	25.14	1.3		-0.3	" "	CB
1018	125	2.95	6.76	25.06	1.0		-0.4	" "	CB
1023	137.50	2.99	6.77	25.48	1.5		-0.4	Sulfer, Smell, Clear	CB
1028	150	2.98	6.77	25.50	1.3		-0.4	Sulfer, Smell, Clear	CB

CAB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 2
Well number: 134GMW-32
Job number: 761748C

Total well depth 188.50
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 12/27/96
Static water level (ft)* 133.36
Standing water column (ft) 55.14
Amt. one well vol (gal) 36
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp GrundFos
Sampling method 1/2 hp GrundFos Pump

(1 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
0900								MOD to site AND Setup, Sound	
								Well, Connect Pump, Transfer Water	
0945								Control Box	MB.
1015 ~~0920~~								fixed	MB
1020	5	1.64	6.92	26.30	9.5	~~0~~	0.6	start Purging/Baseline	MB
1056	36	1.51	6.94	26.90	13.2	0		~~Baseline~~ No odor, clear	MB.
1132	72	1.50	6.94	27.01	6.1	~~0~~	1.2	No odor, clear	MB.
1206	108	1.52	6.92	27.10	5.0		1.6		MB
1215								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: Tank Farm 2
Well number: 13DB MW-49
Job number: 17480

Total well depth 187.00
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 12/27/96
Static water level (ft)* 128.38
Standing water column (ft) 58.62
Amt. one well vol (gal) 38
Total gal to be purged ____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
(1.5 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
~~1020~~ (1220)								mob to 13 DB MW-49	
1240								Sound Well, Set up Pump	MB
1245	4	2.47	6.13	25.15	19	Ø	-0.6	Start Pump / BASELINE	MB
1310	38	2.36	6.04	25.49	8	Ø		NO ODOR, CLEAR	MB
1335	76	2.35	6.00	25.58	4.4	Ø		NO ODOR, Clear	MB
1400	114	2.40	6.03	25.66	3.8	Ø	2.4	NO ODOR, CLEAR	MB.
1410	—	—	—	—	—	—	—	Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: Tank Farm 2
Well number: 13D6MW-78
Job number: 17486

Total well depth 172.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 1/10/97
Static water level (ft)* 125.06
Standing water column (ft) 46.94
Amt. one well vol (gal) 31
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
CV = .1053

(2 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC (x1000)	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0900	2	OFF SCALE	7.94	71.3	3.27	0	Baseline	Arrived @ TF2 @ 13D6MW-78	MB
0916	31	" "	7.70	68.9	2.44	0	—	No odor, Clear	MB
0932	62	" "	7.60	69.0	0.67	0	—	" " "	MB
0948	93		7.61	69.5	0.48	0	—	No odor Clear	MB
0955								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM #2
Well number: 15DBMW-51
Job number: 17486

Total well depth 169.70
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 12/20/96
Static water level (ft)* 119.68
Standing water column (ft) 50.02
Amt. one well vol (gal) 326
Total gal to be purged _____
Development method NA
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
(3 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
0900	—	—	—	—	—	—	—	Set up, Sound Well	MB
0915	—	—	—	—	—	—	—	Install pump	BS
0930	—	—	—	—	—	—	—	Start purging well	BS
0940	5	3.8	6.82	24.52	38.8	—	12.6	No odor, slightly cloudy	BS
0950	30	3.25	6.83	24.52	38.1	—	14.7	No odor, clear	BS
1000	60	3.39	6.83	24.94	14.6	—	8.9	No odor, clear	B
1010	90	3.33	6.84	25.12	5.0	—	~~5.0~~ 14	B clear, No order	B

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 3
Well number: MW-01
Job number: 17486

Total well depth 209
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .6653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/30/97

Static water level (ft)* ~~32.0 CB~~ 177.41
Standing water column (ft) ~~32.0 CB~~ 31.59 Ft

Amt. one well vol (gal) 21
Total gal to be purged 63

Development method N/A
Presampling purging method 2" pump
Sampling method 2" Grundfos pump

(3½ GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

	1250 TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	TURBIDITY	DTW ~~PID~~	DO%	COMMENTS	FIELD TECHNICAIN
3½	1254	14	3.53	7.58	25.02	14.2	183.0	29.4	Clear, No odor	CB
3½	1256	21	3.64	7.41	25.24	16.3	186.2	36.2	" "	CB
3½	1259	31.5	3.69	7.34	25.22			37.0	" "	CB
3½	1302	42	3.81	7.27	25.35			40.1	" "	CB
3gpm	1303	45.5	3.88	7.23	25.41	11.1	186.85	42.1	" "	CB
3gpm	1306	54.5	3.92	7.17	25.42	6.4	187.0	46.3	" "	CB
3gpm	1309	63.5	3.92	7.17	25.37	5.6	187.25	48.7	Clear, No odor	CB
	1312	72.5	3.93	7.16	25.46	5.0	187.35	49.5	Clear, No odor	CB
	1314	78.5	3.93	7.16	25.46	4.6	187.40	49.7	Clear No odor	CB

GROUNDWATER SAMPLING LOG

Client: SWDW
Site: TANK farm 3
Well number: MW-02
Job number: 17486

Total well depth 198.0
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/15/97
Static water level (ft)* 165.7
Standing water column (ft) 32.30
pump set at 192 ft.

Amt. one well vol (gal) 21
Total gal to be purged 63
Development method N/A
Presampling purging method 2" pump
Sampling method 2" Grundfos pump.

(.8 1gpm GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 32.30 ft x .653 = 21.09

1126 TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	NTU TURBIDITY	DTW ~~PID~~ ft	DO%	COMMENTS	FIELD TECHNICAIN
1131	10	2.46	8.23	25.16	100+	185	2.5	Silty No odor	CB
1138	15	2.53	7.92	25.34	100+	187	3.3	Silty No odor	CB
Dry 1139									
* 1.15.97	stopped	work due to heavy rain							
1.16.97	1140	sampled							

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: Tank Farm 3
Well number: MW-03
Job number: 17486

Total well depth 200'
Well diameter 4" SS
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/15/97
Static water level (ft)* 175.33
Standing water column (ft) 24.67
Amt. one well vol (gal) 16
Total gal to be purged 48
Development method N/A
Presampling purging method 2" Grundfos pump
Sampling method 2" Grundfos pump
(2 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level
24.67 x .653 = 16

0923 TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	DTW ~~PID~~ ft	DO %	COMMENTS	FIELD TECHNICAIN
0928	10	1.48	7.57	24.35	14.2	180	14.51	Clear, Rust Particles	CB
0933	20	1.49	7.55	24.75	18.2	180	19.51	Clear, No odor	CB
0938	30	1.52	7.54	25.36	14.6	180	13.3	Clear, No odor	CB
0943	40	1.55	7.47	25.40	10.1	180	10.4	Clear, No odor	CB
0948	50	1.59	7.42	25.48	8.0	186	10.4	Clear, No odor	CB
0953	60	1.59	7.37	25.54	5.7	180	11.3	Clear, No odor	CB
0958	70	1.60	7.35	25.45	5.2	180	12.4	Clear, No odor	CB
1003	80	1.61	7.36	25.51	4.1	180	13.1	Clear, No odor	CB

* stopped work due to rain

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 3
Well number: TF3-MW-03
Job number: 174826

Total well depth 200.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/16/97
Static water level (ft)* 175.33
Standing water column (ft) 24.67
Amt. one well vol (gal) 16
Total gal to be purged ____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos
(1/2 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC ×1000	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0830	2	2.93	13.07	64.8	5.07	0		Start Pump/Baseline	MB
0900	16	2.97	11.84	69.8	101.0	0		No odor, Slightly murky	MB
0930	32	2.89	11.25	70.0	73.4			Slightly Cloudy, No odor	MB
~~1000~~	~~48~~								
0940								Well Dry let it Recharge	MB
1010								Well Recharged 80%	MB
								Start Pump	MB
1040	48	2.90	9.89	70.1	103	0		Cloudy, No odor	MB
1047								Well Dry, let Recharge	MB

COC# 186097

GROUNDWATER SAMPLING LOG

Client: OSWDIV
Site: TANKFARM 4
Well number: ~~MW-02~~ TF4-MW-01
Job number: 18292-02009.02

Total well depth 241 FT.
Well diameter 4" SS
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 12/31/96
Static water level (ft)* 205.29
Standing water column (ft) 35.71
Amt. one well vol (gal) 23.32
Total gal to be purged 72
Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump.

(1 1/2 GPM)
*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level
35.71 x .653 = 23.32 gal / well volume

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
1020	6	1.82	7.64	23.64	11.5		13.8	Silty	CB
1032	24	1.82	7.62	23.91	5.36		15.9	Cloudy	CB
1039	29	1.82	7.48	25.10	6.36		23.2	Clear No odor	CB
1048	48	1.82	7.45	25.30	6.0		25.9	Clear No odor	CB
1104	72	1.81	7.43	25.36	3.06		25.2	Clear No odor.	CB

Baseline

CB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANKFARM 4
Well number: MW-02
Job number: 18292

Total well depth 247
Well diameter 4"
Borehole diameter ____

Min number well vol to bepurged ~~CB~~ 75.3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 12/31/96
Static water level (ft)* 208.84
Standing water column (ft) 38.16

Amt. one well vol (gal) ____
Total gal to be purged ____

Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump

(1 1/2 GPM)

*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level 38.16 x .653 = 24.92 gal/well volume

GPM	TIME	AMOUNT PURGED (gal)	mS/cm EC	pH	°C TEMP	NTU TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
1 1/2	1316	14	2.03	7.26	24.28	26.2		43.1	Cloudy No odor.	CB.
1 1/2 →	1324	25	1.91	7.22	24.73	26.2		46.1	Cloudy	CB
1 1/2 →	1341	50	1.93	7.28	24.86	46.0		40.6	Cloudy	CB
2 gpm →	1354 CB	75	1.80	7.23	24.80	50.2		47.7	Cloudy	CB
	1402		1.78	7.23	24.90	14.3		50.7	Cloudy	CB
	1413		1.80	7.22	24.87	6.22		49.9	Clear	CB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 4 TF4
Well number: ~~MW-63~~ MW-02
Job number: 18292

Total well depth 247
Well diameter 4"
Borehole diameter ____

Min number well vol to bepurged ~~18.3~~
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 12/31/96
Static water level (ft)* 208.84
Standing water column (ft) 38.16

Amt. one well vol (gal) ____
Total gal to be purged ____

Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump

(1 1/2 GPM)
*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level

38.16 x .653 = 24.92 gal/well volume

GPM	TIME	AMOUNT PURGED (gal)	EC mS/cm	pH	°C TEMP	NTU TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
1 1/2	1316	14	2.03	7.26	24.28	26.2		43.1	Cloudy no odor	CB
1 1/2 →	1324	25	1.91	7.22	24.73	26.2		46.1	Cloudy	CB
1 1/2 →	1341	50	1.93	7.28	24.86	46.0		40.6	Cloudy	CB
2 gpm →	1354	75	1.80	7.23	24.80	50.2		47.7	Cloudy	CB
	1402		1.78	7.23	24.90	14.3		50.7	Cloudy	CB
	1413		1.80	7.22	24.87	6.22		49.9	Clear	CB

COC# 186097

GROUNDWATER SAMPLING LOG

Client: PSWDIV
Site: TANKFARM4
Well number: MW-02
Job number: 18292-02000902

Total well depth 241 FT.
Well diameter 4" SS
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 12/31/96
Static water level (ft)* 205.29
Standing water column (ft) 35.71

Amt. one well vol (gal) 23.32
Total gal to be purged 72

Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump.

(1 1/2 GPM)
*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level
35.71 x .653 = 23.32 gal/well volume

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
ASBLINE 1020	6	1.82	7.64	23.64	11.5		13.8	Silty	CB
1032	24	1.82	7.62	23.71	8.36		15.7	Cloudy	CB
1039	29	1.82	7.48	25.10	6.36		23.0	Clear No odor	CB
1048	48	1.82	7.45	25.30	6.0		25.7	Clear No odor	CB
1104	72	1.81	7.43	25.36	3.06		25.2	Clear No odor.	CB

CAB

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: Tank Farm 4
Well number: ~~MW-03~~ TF4-MW-03
Job number: 18292

Total well depth 242.20
Well diameter 6" SS
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.5 gal/ft.
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/2/97
Static water level (ft)* 207.67
Standing water column (ft) 34.53

Amt. one well vol (gal) 52
Total gal to be purged 156
Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump 2"

(2/3 GPM) & 1 GPM *All measurements taken from: __ Top of casing X Protective casing, __ Ground level ~~52~~ 34.53 x 1.5 = ~~156~~ 52 gal

GPM	TIME	AMOUNT PURGED (gal)	EC (m)	pH	TEMP (°C)	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
2/3	1208	25	2.39	7.57	26.40	12.9		5.1	Clear No odor	CB
1 gal	1234	44	2.39	7.50	26.24	7.04		5.3	Clear	CB
1	1246	56	2.37	7.48	26.14	9.74		5.8	Clear	CB
1	1322	92	2.39	7.36	26.68	4.5		7.8	Clear	CB
1	1349	119	2.40	7.35	27.00	4.4		9.0	Clear No odor	CB
		Will continue tomorrow					See	Field	Notes 1/6/97	

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: TANK FARM 4
Well number: MW-03
Job number: 18292

Total well depth 242.20
Well diameter 6" SS
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.5 gal/ft.
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/2/97
Static water level (ft)* 207.67
Standing water column (ft) 34.53

Amt. one well vol (gal) 52
Total gal to be purged 156
Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump 2"

(2/3 GPM) & 1 GPM *All measurements taken from: __ Top of casing X Protective casing, __ Ground level 34.53 x 1.5 = ~~156~~ 52 gal

GPM	TIME	AMOUNT PURGED (gal)	EC (m)	pH	TEMP (°C)	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
2/3	1208	25	2.39	7.57	26.40	12.9		5.1	Clear No odor	CB
1 gal	1234	44	2.39	7.50	26.24	7.04		5.3	Clear	CB
1	1246	56	2.37	7.48	26.14	9.74		5.8	Clear	CB
1	1322	92	2.39	7.36	26.68	4.5		7.8	Clear	CB
1	1349	119	2.40	7.35	27.00	4.4		9.0	Clear No odor	CB
	Will continue tomorrow See Field Notes 1/6/97									

GROUNDWATER SAMPLING LOG

Client: Sci DIV
Site: TANK FARM 4
Well number: ~~MW-03~~ TF4-MW-03
Job number: 18292

Total well depth 242.20
Well diameter 6"
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.467
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/6/97
Static water level (ft)* 207.71
Standing water column (ft) 34.49

Amt. one well vol (gal) 51
Total gal to be purged 152

Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump 2"

(1 GPM)
*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	NTU. TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
0825	20	2.21	7.92	25.03	13.1		1.0	Clear, No odor	CB.
0855	50	2.19	7.81	25.58	10.9		4.8	Clear, No odor	CB.
0856	51	2.19	7.82	25.44	10.9		5.7	Clear, No odor	CB.
0930	85	2.18	7.58	25.30	11.4		6.7	Clear, No odor	CB
0947	102	2.20	7.50	25.00	10.3		11.7	Clear, No odor	CB
1015	130	2.21	7.47	25.95	7.2		16.7	Clear, No odor.	CB.
1038	153	2.21	7.45	25.97	6.3		19.8	Clear, No odor	CB.

DTW 226.0

CHB

1.467

GROUNDWATER SAMPLING LOG

Client: Sev DIV
Site: TANK FARM 4
Well number: MW-03
Job number: 18292

Total well depth 242.20
Well diameter 6"
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.467
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/6/97
Static water level (ft)* 207.71
Standing water column (ft) 34.49

Amt. one well vol (gal) 51
Total gal to be purged 152

Development method N/A
Presampling purging method Grundfos pump
Sampling method Grundfos pump 2"

(1 GPM)
*All measurements taken from: __ Top of casing, X Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	NTU. TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
0825	20	2.21	7.92	25.03	13.1		1.0	Clear, No odor	CB
0855	50	2.19	7.81	25.58	10.9		4.8	Clear, No odor	CB
0856	51	2.19	7.82	25.44	10.9		5.7	Clear, No odor	CB
0930	85	2.18	7.58	25.30	11.4		6.7	Clear, No odor	CB
0947	102	2.20	7.50	26.00	10.3		11.7	Clear, No odor	CB
1015	130	2.21	7.47	25.95	7.2		16.7	Clear, No odor.	CB
1038	153	2.21	7.45	25.97	6.3		19.8	Clear, No odor	CB

CAB

DTW 226.0

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TP4
Well number: MW-16
Job number: 18292

Total well depth 268.55
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 12/30/96
Static water level (ft)* 215.60
Standing water column (ft) 52.95
Amt. one well vol (gal) 35
Total gal to be purged
Development method NA
Presampling purging method
Sampling method
(2 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 52.95 x .653 = 34.58

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
0730	—	—	—	—	—	—	—	Arrived at site. Set up	B
—	—	—	—	—	—	—	—	Sound well.	
0800	—	—	—	—	—	—	—	Rinsate taken	B
0850	—	—	—	—	—	—	—	Pump started	B
0905	10	1.426	7.22	25.67	16.9	—	117.7	Baseline; no odor; clear.	B
0923	45	1.14	7.23	25.45	2.46	—	122.6	Clear, odorless	B
0941	70	1.06	7.22	25.48	1.25	—	122.7	Clear, odorless	B
0959	105	1.18	7.21	25.56	0.98	—	121.9	Clear, odorless	B
~~1077~~	~~140~~ B	—	—	—	—	—	—	Sample taken	B
B 1010	115								

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: TF4
Well number: 2006MW-36
Job number: 18292

Total well depth 229.35
Well diameter ~~185 ft~~ 4" (B)
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 12/30/96

Static water level (ft)* 185.11
Standing water column (ft) 44.24

Amt. one well vol (gal) 29
Total gal to be purged _____
Development method NA
Presampling purging method _____
Sampling method _____

(~~2.5~~ 2 (B) GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 44.24 x .653 = 28.88

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
1115	—	—	—	—	—	—	—	Arrival at site. Sounded	(B)
—	—	—	—	—	—	—	—	well.	—
1145	—	—	—	—	—	—	—	Rinsate taken	(B)
1225	—	—	—	—	—	—	—	Pump on	(B)
1230	5	2.54	7.54	25.66	44.5	—	53.2	Baseline: odorless, light yellow	(B)
1245	34	2.58	7.23	26.08	16.1	—	77.9	Clear, odorless	(B)
1300	53	2.60	7.15	26.18	7.9	—	85.8	Clear, odorless	(B)
1315	82	2.59	7.12	26.05	5.09	—	94.6	Clear, odorless	(B)
1330	111	2.58	7.4	26.09	2.5	—	104.3	Clear, odorless	(B)
1332								Sample taken	(B)

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM - 6
Well number: MW-01
Job number: 17486

Total well depth 225.75
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/16/97
Static water level (ft)* 191.61
Standing water column (ft) 34.14
Amt. one well vol (gal) 22
Total gal to be purged 67
Development method N/A
Presampling purging method 2" Grundfos
Sampling method 2" Grundfos pump

(1 1/2 to 1/2 gpm. 1 1/2 GPM)

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

0847 TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
0852	7.5	1.24	7.08	24.74	4.8	N/A	1.1	Clear x No odor	CB
0857	15	1.24	7.27	25.13	3.8	N/A	-0.3	Clear, No odor	CB
0902	30	1.24	7.15	25.20	4.6	N/A	-92.8	Clear No odor	CB
0918 ½gpm 0938	35	1.24	7.07	25.38	4.8	N/A	-99.9	" "	CB
0939	36	1.23	7.08	25.51		N/A	-99.9	" "	CB
0940	37	1.23	7.09	25.60		N/A	-87.0	" "	CB
0942	39	1.24	7.13	25.89	5.0	N/A	-84.9	" "	CB
0944	41	1.26	7.17	26.03		N/A	-80.0	" "	CB
0945	42	1.26	7.19	26.10	6.8	N/A	-99.9	" "	CB
0947	44	1.26	7.20	26.10		N/A	-99.9	" "	CB
0949	46	1.21	7.21	26.05	7.9	N/A	-83.3	" "	CB
1/2gpm 0951	48	1.21	7.20	25.94		N/A	-88.9	" "	CB
0953	51	1.21	7.20	25.95	10.6	N/A	-75.2	Cloudy No odor	CB
0956	55.5	1.22	7.19	26.05	18.5	N/A	-70.2	Cloudy No odor	CB
well Dry 0959	60	1.22	7.15	26.13	22.2	DTW 205.5 ft	-72.6	Cloudy No odor	CB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 6
Well number: TF6-MW-02
Job number: 17488

Total well depth 22.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) _____
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 1/17/97
1/20/97

Static water level (ft)* 196.25
Standing water column (ft) 23.75

Amt. one well vol (gal) 16
Total gal to be purged _____

Development method _____
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(1/2 GPM)

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0920								MOB to Well, Sound Well	MB
							Bas	start Pump	MB
0925	2	1.08	8.81	70.2	9.61	Ø	Baseline	Clear, slight ODOR	MB
0958	16	1.07	8.82	70.9	27.4	Ø		" " "	MB
1000								Well Dry let it Recharge	
1002								MOB to Another Well Will Return ON	
								1/20/97 to Purge and Sample	
1/20/97 0830	2	1.12	8.96	69.5	3.78	Ø		start Purging/ clear	NO ODOR
0850	9	1.11	8.92	70.1	4.01	Ø		Clear NO ODOR	MB
								Let Well Recover	MB
								80% Recovery	MB
1145								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 6
Well number: 04-DBMW-40
Job number: 17486

Total well depth 265.50
Well diameter 4" PVC
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

NO CAP.

Date 1/16/97
Static water level (ft)* 208.90
Standing water column (ft) 56.60

Amt. one well vol (gal) 37
Total gal to be purged 111

Development method N/A
Presampling purging method 2" Grundfos
Sampling method 2" Grundfos pump.

(2 1/2 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level
56.60 x .653 = 37 gal

1349 TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
1354	12.5	1.34	7.12	25.73	8.5	N/A	80.8	Clear no odor	CB
1359	25	1.34	7.12	25.78	6.7	N/A	61.1	Clear No odor	CB
1404	37.5	1.36	7.10	25.79	4.2	N/A	69.5	Clear No odor	CB
1409	50	1.39	7.08	25.82	2.1	N/A	54.5	Clear No odor	CB
1414	62.5	1.40	7.07	25.81	1.6	N/A	53.9	Clear No odor	CB
1419	75	1.39	7.07	25.87	1.3	N/A	54.0	Clear No odor	CB
1424	87.5	1.42	7.06	25.84	1.3	N/A	50.4	Clear No odor	CB
1429	100	1.40	7.07	25.84	1.0	N/A	54.3	Clear No odor	CB
1434	112.5	1.41	7.06	25.85	1.0	N/A	51.6	Clear No odor	CB

CERCLA LUFL.

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARMS
Well number: 04-DGMW-66
Job number: 17486

Total well depth 265.50
Well diameter 10" PVC
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) 1.5
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 6/17/97
Static water level (ft)* 210.08
Standing water column (ft) 54.70
Amt. one well vol (gal) 82
Total gal to be purged 246
Development method
Presampling purging method 2" pump
Sampling method 2" Red. Flo. Grundfos pump
(2 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

1148 TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	NTU TURBIDITY	DTW ~~PID~~	DO%	COMMENTS	FIELD TECHNICAIN
1158	20	1.17	7.22	25.49	100+	210.62	122.0	Cloudy, No odor	CB
1208	40	1.18	7.19	25.62	96	210.62	115.9	Cloudy, No odor	CB
1218	60	1.18	7.17	25.84	34.4	210.60	114.5	Cloudy, No odor	CB
1228	80	1.18	7.17	26.00	23.5	210.60	114.0	" " " "	CB
1238	100	1.18	7.17	26.22	23.5	210.61	114.2	" " " "	CB
1248	120	1.19	7.17	26.31	18.5	210.61	115.0	Cloudy, No odor	CB
1258	140	1.19	7.17	26.28	24.4	210.61	112.4	Cloudy, No odor	CB
1308	160	1.19	7.16	26.29	17.9	210.61	112.1	" "	CB
1318	180	1.19	7.17	26.30	13.7	210.61	121.7	" "	CB
1328	200	1.19	7.16	26.20	12.7	210.61	114.6	" "	CB
1338	220	1.19	7.16	26.42	8.2	210.61	111.1	" "	CB
1353	250	1.19	7.16	26.37	5.0	210.61	113.9	" "	CB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: Tank Farm 6
Well number: 18-BGMW-01E
Job number: 17480

Total well depth 230.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/17/97
Static water level (ft)* 203.10
Standing water column (ft) 26.90

Amt. one well vol (gal) 18
Total gal to be purged 54
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos pump

(3 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC	pH	°C TEMP	NTU TURBIDITY	PID	DO %	COMMENTS	FIELD TECHNICAIN
1015				24.90				MOB to Well, setup site	MB
								Sound Well	MB
								Start Pump	MB
1020							BASELINE		MB
1/20/97 0914	12	1.23	7.09	25.30	1.8	N/A	BASELINE	Clear, No odor	CB
0916	18	1.26	7.08	25.31	1.5	N/A	7.2	Clear, No odor	CB
0922	36	1.32	7.06	25.69	1.3	N/A	5.3	Clear, No odor	CB
0925	45	1.29	7.06	25.70	1.1	N/A	4.6	" "	CB
0928	54	1.28	7.06	25.78	1.0	N/A	4.3	" "	CB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK farm 4
Well number: 04-46MW-63
Job number: 17486

Total well depth 280.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) _____
Vol per ft. borehole (gal) _____
(less casing and filter pack)

Date 11/17/97
Static water level (ft)* 209.10
Standing water column (ft) 70.90

Amt. one well vol (gal) 104
Total gal to be purged 312

Development method ____
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(6 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0800								MOB to sit, set up	MB
0815								start Pump	MB
0817	5	1.86	8.53	71.1	137.0	0	BASELINE	Rusty Water, NO ODOR	MB
0833	104	1.95	8.43	70.1	10.2	0		Clear, NO ODOR	MB
0851	208	1.96	8.49	69.9	3.97	0		" " "	MB
0909	312	1.93	8.51	69.8	2.89	0		Clear NO ODOR	MB
0915							→	Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 555
Well number: TF555-MW-01
Job number: 18292

Total well depth 221.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 2/4/97
Static water level (ft)* 185.60
Standing water column (ft) 35.40

Amt. one well vol (gal) 23
Total gal to be purged ____
Development method —
Presampling purging method 1/2 Hp Grundfos
Sampling method 1/2 Hp Grundfos Pump

(1 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	x1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1100								Setup Sound Well	MB
1120								Install Pump + Pipe	MB
1130								Rinsate	MB
1200								Start Pump	MB
1223	23	1.60	8.20	78.8	50.1			Clear, No odor	MB
1246	46	1.61	8.25	78.5	19.5			Clear, No odor	MB
1309	69	1.58	8.16	78.1	4.45				MB
1315								Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK FARM 555
Well number: TF555-MW-02
Job number: 18292

Total well depth 61.50
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/29/97
Static water level (ft)* 24.90
Standing water column (ft) 36.60
Amt. one well vol (gal) 24
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(1 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0800								MOB to site	MB
0815								Site Prep By way of	MB
								Laying Down Rock + Base	MB
1050								Install Pump	MB
1100								start Pump	MB
1101	1	1.54	8.96	76.0	53.3	0		BASELINE/CLEAR NO ODOR	MB
1124	24	1.39	8.45	74.6	41.4	0		" " "	MB
1148	48	1.41	8.59	74.0	9.42	0		" " "	MB
1212	72	1.48	8.54	74.1	8.57	0		" " "	MB
1236	96	1.51	8.57	74.1	3.41	0			MB
1255	—	—	—	—	—	—	—	Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 555
Well number: TF555-MW-03
Job number: 18292

Total well depth 221.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 2/3/97
2/4/97

Static water level (ft)* 182.50
Standing water column (ft) 38.50

Amt. one well vol (gal) 25.
Total gal to be purged ____

Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(1 GPM)

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1100								MOB + Setup, Sound Well	MB.
1120								Install Pump + Pipe	MB
1215 ~~1145~~								Lunch	MB
1245								Start Pump	MB
1246	1	7.49	11.13	76.9	700'	~~0~~	—	BASELINE / BROWN NO ODOR CLOUDY	MB
1311	25	8.87	10.07	78.9	14.1				MB
1336	50	~~10.93~~ 11	9.02	83.1	11.5				MB
1401	75	1.23	8.39	83.8	7.8				MB
								Well Dry	MB
0800								MOD to Site	MB
0815								Start Pump	MB
0840	100	1.14	9.17	70.9	7.01			Clear	MB
0905	125	1.20	9.01	71.5	3.66			Clear	MB
0930	150	1.19	9.08	70.9	3.48			Clear	MB
0940	—	—	—	—	—	—	—	Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TF 555
Well number: MW-04
Job number: 18292

Total well depth 110.63
Well diameter 4"
Borehole diameter NA

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 1/22/97
Static water level (ft)* 23.61
Standing water column (ft) 87.02
(14.2 min/1 well volume)
(4 GPM)

Amt. one well vol (gal) 56.8
Total gal to be purged ____

Development method NA
Presampling purging method 1/2 hp 6
Sampling method ↓

*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 87.02 x .653 = 56.8

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
0900	—	—	—	—	—	—	—	Arrived at site, sounded	B
	—	—	—	—	—	—	—	well.	
0915	—	—	—	—	—	—	—	Pipe in well	B
0940	—	—	—	—	—	—	—	pump started	B
0945	4	0.95	8.31	23.07	6.0	—	6.4	Base line	B
0955	60	0.96	8.00	23.18	3.8	—	2.8	Clear, odorless	B
1010	117	0.96	7.83	23.21	2.1	—	0.3	Clear odorless	B
1025	173.8	0.96	7.82	23.27	1.4	—	0.0	Clear odorless	B
1030	—	—	—	—	—	—	—	Sample taken	B

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: TF 555
Well number: MW-05
Job number: 18292

Total well depth 64.32
Well diameter 4"
Borehole diameter NA

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 1/22/97
Static water level (ft)* 42.45
Standing water column (ft) 21.87
Amt. one well vol (gal) ~~21~~ 14.3 (8)
Total gal to be purged 43
Development method NA
Presampling purging method Y2 HP 6.
Sampling method ↓
(~~1/4~~ 2 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level 21.87 x .653 = 14.3

2 hr 52 min to pump 3 well volumes

36 min ~~[illegible]~~ / well volume

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID	DO%	COMMENTS	FIELD TECHNICAIN
1250	—	—	—	—	—	—	—	Pump started	(B)
1303	3	.96	7.55	22.17	4.4	—	11.7	Baseline	(B)
1340	12.5	1.09	7.39	24.78	0.9	—	5.9	DTW 46.10 Clear, no odor	CB
1400	17.5	1.13	7.33	24.71	0.6		6.8	DTW 46.29 clear, no odor	CB
0715								MOD to site	MB
0730								Setup site	MB
0800	2	0.945	7.67	21.3	5.9	0	33.0	Start Pump	MB
0835	28	0.901	7.66	21.9	28.6	0		Well Dry stop Pump	MB
0906	32	1.095	7.42	22.50	35.5	0	69.3		CB
0908	44	1.12	7.46	22.82		0	76.3	Well Went Dry Stop pump	CB
0945								DTW 44.2 ft. Sample	CB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TF 555
Well number: PZ-01
Job number: 18292

Total well depth 50.00
Well diameter 2"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/22/97
CV-165
(1/2 GPM)

Static water level (ft)* 25.70
Standing water column (ft) 24.30

Amt. one well vol (gal) 3
Total gal to be purged ____

Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1100								TAKE RINSATE	MB
1110								INSTALL PUMP	MB
~~1115~~								~~START PUMP~~	~~MB~~
1150								LUNCH	MB
1245	1	1.35	8.90	71.1	~~917~~ OFFSCALE	0		MUCKY, NO ODOR	MB
1251	3	2.08	8.35	68.9	68.3	0		CLOUDY, NO ODOR	MB
1257	6	2.18	8.15	70.4	22.8	0		CLEAR NO ODOR	MB
1303	9	2.18	8.11	69.9	4.98	0		CLEAR NO ODOR	MB
1325								SAMPLE	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: PZ-02 TF555
Well number: PZ-02
Job number: 18292

Total well depth 50.00
Well diameter 2"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/22/97
CV .165
(1/2 GPM)

Static water level (ft)* 29.40
Standing water column (ft) 20.60

Amt. one well vol (gal) ~~3~~ 4
Total gal to be purged ____

Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	x100 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0900								MOB to site setup, sound	MB
0940								Well instant Pump	MB
0948								start Pump	MB
0950	2	7.98	8.09	72.0	68.9	Ø		Baseline	MB
0958	4	7.96	7.95	69.9	5.42	Ø		Clear, No odor	MB
1006	8	7.94	7.96	70.1	0.74	Ø		Clear, No odor	MB
1014	12	7.95	7.97	70.2	0.52	Ø		Clear, No odor	MB
1025	—							Sample	MB

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK Farm 555
Well number: 17NEW1
Job number: _____

Total well depth 232.00
Well diameter 4"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/31/97
Static water level (ft)* 182.90
Standing water column (ft) 49.10
(1 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

Amt. one well vol (gal) 32
Total gal to be purged _____

Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0820								MOB to TNEW1	MB
0825								set up, SOUND Well	MB
0838								start Pump	MB
0841	3	OFFSCALE	8.39	72.5	82.9	Ø		BASELINE/CLOUDY NO ODOR	MB
0910	32	9.81	8.61	77.1	75.4	Ø		CLOUDY NO ODOR	MB
0942	64	9.36	8.49	77.9	28.4	Ø		Clear NO ODOR	MB
1014	96	9.41	8.51	78.3	13.1	Ø		" "	MB
1046	128	9.40	8.49	78.1	4.7	Ø		Clear NO ODOR	MB
1055								SAMPLE	MB

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK FARM 555
Well number: 03BGMW-26
Job number: 18292

Total well depth 276.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 2/7/97
Static water level (ft)* 216.38
Standing water column (ft) 59.62
Amt. one well vol (gal) 87.5
Total gal to be purged ____
Development method —
Presampling purging method 1/2 Hp Grundfos Pump
Sampling method 1/2 Hp Grundfos Pump
(3 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	EC (1000)	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0845								MOB to site	MB
0855								Set up site, sound Well	MB
0935	GENERATOR DO NOT HAVE 250 V. PUMP WE ARE TRYING							~~Take Rinsate~~	~~MB~~
	to GET A REDUCER PUMP FOR GENERATOR							~~Install Pump in Well~~	MB
								~~Start Pump~~	MB
1000								GENERATOR PROBLEM fixed	MB
1030								RINSATE	MB
1040								Install Pump	MB
1045		1.42	8.07	80.0	12.0	Ø	BASELINE	Start Pump/CLEAR NO ODOR	MB
1115	90	1.30	8.44	77.5	4.29	Ø		CLEAR NO ODOR	MB.
1145	180	1.28	8.49	77.9	2.88	Ø		" " "	MB
1215	270	1.29	8.50	78.0	1.79	Ø		CLEAR NO ODOR	MB
1225								SAMPLE	

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: JANK farm
Well number: 18292
Job number: 17DGMW-82

Total well depth 260.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) —
Vol per ft. borehole (gal) —
(less casing and filter pack)

Date 1/30/97 1/31/97
Static water level (ft)* 185.25
Standing water column (ft) 74.75
Amt. one well vol (gal) 110
Total gal to be purged _____
Development method —
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump
(6 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

TIME	AMOUNT PURGED (gal)	X1000 EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
0900								MOB to site	
0920								Site Needs to Be cleared of Sand	
								and silt from Around W-11 1 to 1½	
								feet Deep	
1115 ~~1055~~	5	1.80	8.26	80.6	5.16	0		Baseline/Clear No odor	
1135	110	1.43	8.26	74.4	11.9	0		Clear, No odor Well Dry	
~~1155~~								Well Recharged start Pump	
1420 ~~1215~~								Well only 50% Recovered	
1/31/97								MOB Back to Yard	
0745								MOB to Well	
0800								start Pump	
0815								St Sample	

GROUNDWATER SAMPLING LOG

Client: SWDIV
Site: TANK-390
Well number: MW-01
Job number: 18292

Total well depth 198.60
Well diameter 4"
Borehole diameter ____

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/21/97
Static water level (ft)* 158.05
Standing water column (ft) 40.55

Amt. one well vol (gal) 27
Total gal to be purged 81
Development method ____
Presampling purging method 2" pump
Sampling method 2" grundfos pump

(4 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

	TIME (1132)	AMOUNT PURGED (gal)	EC	pH	°C TEMP	TURBIDITY	DTW ~~PID~~	DO%	COMMENTS	FIELD TECHNICAIN
3	1135	12	1.30	7.05	24.38	4.6	160.60	80.8	BASE Rusty No odor	CB
6	1138	24	1.30	7.14	24.54	3.4	160.70	82.2	Clear No odor	CB
9	1141	36	1.30	7.12	24.56	1.9	160.77	86.5	Clear No odor	CB
12	1144	48	1.32	7.12	24.49	1.3	160.80	91.1	" "	CB
15	1147	60	1.31	7.11	24.54	1.0	160.80	90.7	" "	CB
18	1150	72	1.31	7.11	24.56	0.9	160.81	91.6	" "	CB
21	1153	84	1.31	7.09	24.60	0.7	160.80	94.0	Clear No odor	CB

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: Tank 390 El toro
Well number: MW-02
Job number: 18292

Total well depth 91.5
Well diameter 4"
Borehole diameter 10"

Min number well vol to bepurged 3
Vol per ft. casing (gal) NA
Vol per ft. borehole (gal) NA
(less casing and filter pack)

Date 1/21/97
Static water level (ft)* 156.7
Standing water column (ft) 34.8
Amt. one well vol (gal) 23
Total gal to be purged ____
Development method —
Presampling purging method Y2 4p 6c
Sampling method ↓

(3 GPM)
*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level 34.8 x .653 = 22.7

TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
1130	—	—	—	—	—	—	—	Arrival on Site	B
1145	—	—	—	—	—	—	—	Pipe in well, Rinsate taken	B
1235	—	—	—	—	—	—	—	Pump Started	B
1245	30	1.15	8.6	64.2	4.0	—	—	Baseline	B
1253	53	1.4	8.3	70.8	2.81	—	—	Clear, odorless	B
1302	76	1.4	8.0	72.5	2.38	—	—	clear, odorless	B
1320	—	—	—	—	—	—	—	Sample taken	B

GROUNDWATER SAMPLING LOG

Client: SW DIV
Site: TANK 390
Well number: MW-03
Job number: 18292

Total well depth 189.30
Well diameter 4"
Borehole diameter N/A

Min number well vol to bepurged 3
Vol per ft. casing (gal) .653
Vol per ft. borehole (gal) N/A
(less casing and filter pack)

Date 1/21/97
Static water level (ft)* 159.54
Standing water column (ft) 29.76

Amt. one well vol (gal) 19
Total gal to be purged 58

Development method N/A
Presampling purging method 2" pump
Sampling method 2" grundfos pump

(4 GPM)
*All measurements taken from: X Top of casing, __ Protective casing, __ Ground level

	TIME 1345	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	DTW ~~PID~~ ft	DO%	COMMENTS	FIELD TECHNICAIN
3	1348	12	1.32	7.10	24.23	60.3	161.20	101.4	Cloudy No odor	CB
6	1351	24	1.32	7.09	24.22	31.90	161.30	101.4	Clear No odor	CB
9	1354	36	1.31	7.07	24.26	7.5	161.30	102.0	Clear No odor	CB
12	1357	48	1.32	7.07	24.24	7.5	161.30	100.9	Clear No odor	CB
15	1400	60	1.32	7.06	24.28	6.5	161.30	101.2	" "	CB
18	1403	72	1.31	7.07	24.27	5.0	161.30	102.2	" "	CB
~~21~~	~~1406~~									

GROUNDWATER SAMPLING LOG

Client: SWDiv
Site: TANK 390 EL TORO
Well number: 18-BGMW-02E
Job number: 18292

Total well depth 235.00
Well diameter 6"
Borehole diameter 11"

Min number well vol to bepurged 3
Vol per ft. casing (gal) ____
Vol per ft. borehole (gal) ____
(less casing and filter pack)

Date 1/20/97
1/21/97

Static water level (ft)* 159.80
Standing water column (ft) 75.20

Amt. one well vol (gal) 110.00
Total gal to be purged ____

Development method ____
Presampling purging method 1/2 hp Grundfos
Sampling method 1/2 hp Grundfos Pump

(1 GPM) on 1/21/97 = 5 gal/min

*All measurements taken from: ✓ Top of casing, __ Protective casing, __ Ground level

	TIME	AMOUNT PURGED (gal)	EC	pH	TEMP	TURBIDITY	PID		COMMENTS	FIELD TECHNICAIN
	1300	—	—	—	—	—	—	—	Setup Site Sound Well	MB
	1320	—	—	—	—	—	—	—	Start Pump	MB
	1415	—	—	—	—	—	—	—	Stop Pumping	MB
1/21/97	0805	—	—	—	—	—	—	—	Begin pumping	R
	0850	50	1.27	8.6	69.8	5.84	—	—	Baseline	R
	0900	—	—	—	—	—	—	—	Pump stopped. Pull pump	R
	—	—	—	—	—	—	—	—	Put new pump back in	R
	0945	—	—	—	—	—	—	—	Rinsate taken	R
	1000	—	—	—	—	—	—	—	Pump started	R
	1015	25	1.20	8.4	72.2	123	—	—	Baseline	R
1/2 well volume	1032	110	1.20	8.22	71.0	20.7	—	—	Clear, no odor	R
1 1/2 well volume	1054	220	1.19	8.2	70.7	4.8	—	—	Clear, no odor	R
	1100	250	—	—	—	—	—	—	Sample taken	R

Appendix C
Summary of Analytical Results

Table C-1
Summary of Analytical Results for Tank Farm 1
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF1-W-851	97-TF1-W-1517	96-TF1-W-869	97-TF1-W-1515	96-TF1-W-835	97-TF1-W-1519	96-TF1-W-833	97-TF1-W-1501	96-TF1-W-867	97-TF1-W-1513	97-TF1-W-1514	96-TF1-W-838	97-TF1-W-1507	96-TF1-W-834	96-TF1-W-836
Sample Location		TF1MW-01	TF1MW-01	TF1MW-02	TF1MW-02	18_DW135	18_DW135	14_DBMW50	14_DBMW50	18_DGMW103	18_DGMW103	18_DGMW103	24_EX2	24_EX2	Trip Blank	Trip Blank
Date Collected		09/10/96	1/14/97	09/11/96	1/14/97	09/06/96	1/14/97	09/06/96	1/10/97	09/11/96	1/14/97	1/14/97	09/09/96	1/13/97	09/06/96	09/09/96
	Unit															
Total Petroleum Hydrocarbons (CA LUFT-8015M)																
TPH as Diesel	µg/L	570 U	520 U	540 U	500 U	500 U	500 U	500 U	NA	500 U	540 U	570 U	540 UJ	NA	NA	NA
TPH as Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	49 PJ	240 P	50 U	50 U
TPH as JP-5	µg/L	570 U	520 U	540 U	500 U	500 U	500 U	500 U	NA	500 U	540 U	570 U	540 UJ	NA	NA	NA
TPH-Extractable	µg/L	570 U	520 U	540 U	500 U	140 J	500 U	500 U	500 U	500 U	540 U	570 U	540 UJ	550 U	NA	NA
Volatile Aromatic Compounds (EPA 8020)																
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)																
1,1,1-Trichloroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.6 J	0.8 J	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	NA	10 U	NA	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 U	10 UJ	10 U	10 UJ	10 UJ
2-Hexanone	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	NA	19	NA	16	19	18	12	10	5.0 U	5.0 U	5.0 U	3.6 J	2.4 J	5.0 U	5.0 U
Chlorobenzene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	µg/L	NA	2.2 J	NA	1.5 J	1.6 J	1.5 J	3.7 J	3.3 J	5.0 U	5.0 U	5.0 U	0.8 J	0.8 J	5.0 U	5.0 U
Chloromethane	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U
Methylene chloride	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.9 J	5.0 U	5.0 U
Styrene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	NA	23	NA	30	16	19	1.2 J	3.0 J	5.0 U	5.0 U	5.0 U	69	460	5.0 U	5.0 U
Trichlorofluoromethane	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	NA	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	µg/L	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Metals (EPA 6010A)																
Antimony	µg/L	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	24	NA	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	2.0 U	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	190	NA	160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	20 U	NA	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	7400	NA	8100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	160	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	11	NA	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																
Specific Conductance (EPA 120.1)	µmhos/cm	NA	12000	NA	12000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1400	NA	1400	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.0	NA	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (Tds) (EPA 160.1)	mg/L	2400	NA	2200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	12	NA	5.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	190	NA	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	460 J	NA	340 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	0.21	NA	0.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.1 U	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	35	28	26	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.060	0.050	0.070	0.050	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	820	2000	910	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD)(EPA 405.1)	mg/L	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD)(EPA 410.4)	mg/L	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	1.0	NA	1.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX)(EPA 450.1)	mg/L	NA	0.03	NA	0.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (EPA 7470A)	µg/L	NA	0.20 U	NA	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	9000	NA	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-1 Cont'd
Summary of Analytical Results for Tank Farm 1
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF1-W-849	96-TF1-W-866	97-TF1-W-1520	96-TF1-W-837	96-TF1-W-850	96-TF1-W-868	97-TF1-W-1506	97-TF1-W-1508	97-TF1-W-1512	97-TF1-W-1516	97-TF1-W-1518
Sample Location		Trip Blank	Trip Blank	Trip Blank	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		09/10/96	09/11/96	1/14/97	09/09/96	09/10/96	09/11/96	1/13/97	1/13/97	1/14/97	1/14/97	1/14/97
	Unit											
Total Petroleum Hydrocarbons (CA LUFT-8015M)												
TPH as Diesel	µg/L	NA	NA	NA	500 UJ	590 U	540 U	NA	NA	530 U	520 U	510 U
TPH as Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPH as JP-5	µg/L	NA	NA	NA	500 UJ	590 U	540 U	NA	NA	530 U	520 U	510 U
TPH-Extractable	µg/L	NA	NA	NA	500 UJ	590 U	540 U	560 U	500 U	530 U	520 U	510 U
Volatile Aromatic Compounds (EPA 8020)												
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)												
1,1,1-Trichloroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	NA	10 UJ	10 U	10 UJ	NA	NA	NA	NA	10 U	10 U	10 U
2-Hexanone	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
Acetone	µg/L	NA	10 U	10 U	1.9 J	NA	NA	NA	NA	10 U	10 U	10 U
Benzene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Bromomethane	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
Carbon disulfide	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
Chloroform	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Chloromethane	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
cis-1,2-Dichloroethene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/L	NA	NA	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Styrene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Toluene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	µg/L	NA	5.0 U	2.1 J	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
Vinyl chloride	µg/L	NA	10 U	10 U	10 U	NA	NA	NA	NA	10 U	10 U	10 U
Xylenes (Total)	µg/L	NA	5.0 U	5.0 U	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U
Metals (EPA 6010A)												
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	58	51 U	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	1000 U	1000 U	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry												
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	NA	NA	NA	NA	5.7	6.4	NA	NA	NA	NA	NA
Total Dissolved Solids (Tds) (EPA 160.1)	mg/L	NA	NA	NA	NA	4.0 U	4.0 U	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	4.0 U	4.0 U	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	3.5 J	10 U	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	NA	NA	NA	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	NA	NA	NA	NA	0.040 U	0.040 U	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	NA	NA	NA	NA	0.030 U	0.030 U	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	NA	NA	NA	NA	5.0 U	5.0 U	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD)(EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD)(EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	NA	NA	NA	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA
Total Organic Halides (TOX)(EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (EPA 7470A)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology												
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	NA	NA	NA	NA	42000	200 U	NA	NA	NA	NA	NA

Table C-2
Summary of Analytical Results for Tank Farm 2
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF2-W-670	96-TF2-W-784	96-TF2-W-823	96-TF2-W-1459	97-TF2-W-1534	96-TF2-W-689	96-TF2-W-804	96-TF2-W-1472	97-TF2-W-1547	97-TF2-W-1548	96-TF2-W-763	96-TF2-W-1462	97-TF2-W-1500	96-TF2-W-688	96-TF2-W-802	97-TF2-W-1504	96-TF2-W-816	96-TF2-W-817
Sample Location		TF2MW-01	TF2MW-01	TF2MW-01	TF2-MW-01	TF2MW-01	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-02	TF2MW-03	TF2MW-03	TF2MW-03	TF2MW-04	TF2MW-04	TF2MW-04	13_UGMW32	13_UGMW32 (Dup)
Date Collected		06/14/96	08/29/96	09/04/96	12/23/96	1/17/97	06/14/96	08/30/96	12/31/96	1/28/97	1/28/97	08/29/96	12/24/96	1/10/97	06/14/96	08/30/96	1/13/97	09/03/96	09/03/96
	Unit																		
Total Petroleum Hydrocarbons (CA LUFT-8015M)																			
TPH As Diesel	µg/L	500 U	NA	570 U	NA	NA	500 U	520 U	NA	NA	NA	NA	NA	NA	500 U	520 U	NA	560 U	560 U
TPH As Gasoline	µg/L	3700 P	3800 P	NA	6700 P	NA	630 P	530 P	990 P	1100 P	1100 P	3500 P	3300 P	4100 P	2100 P	1900 P	1500 P	54 P	60 P
TPH As JP-5	µg/L	860 P	NA	570 U	NA	NA	500 P	520 U	NA	NA	NA	NA	NA	NA	730 P	520 U	NA	560 U	560 U
TPH-Extractable	µg/L	500 U	NA	1000	630	NA	500 U	190 J	860	NA	340 J	NA	660	1100	500 U	420 J	620	190 J	200 J
Volatile Aromatic Compounds (EPA 8020)																			
Benzene	µg/L	1300	NA	NA	1400	NA	90	NA	1.0 U	6.5	6.4	NA	380	660	660	NA	310	2.5	2.6
Ethylbenzene	µg/L	3.1	NA	NA	2.0 U	NA	3.4	NA	1.0 U	1.0 U	1.0 U	NA	2.0 U	1.0 U	3.5	NA	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	NA	NA	2.0 U	NA	1.0 U	NA	1.0 U	1 U	1 U	NA	2.0 U	1.0 U	1.0 U	NA	1.0 U	NA	NA
Toluene	µg/L	1.0 U	NA	NA	1.0 J	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	5.0 U	1.0 U	0.7 J	NA	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	96	NA	NA	127	NA	23	NA	23	26	26	NA	120	140	64	NA	58	1.0 U	0.8 J
Volatile Organic Compounds (EPA 8260A)																			
1,1,1-Trichloroethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	NA	23	NA	22	NA	NA	5.0 U	5.0 U	1.8 J	1.8 J	5.0 U	5.0 U	5.0 U	NA	5.0 U	7.2	1.2 J	1.1 J
1,2-Dichloropropane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 UJ	10 UJ	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	NA	10 UJ	NA	10 U	NA	NA	10 UJ	10 U	10 U	10 U	10 UJ	10 U	10 U	NA	10 UJ	10 U	10 UJ	10 UJ
4-Methyl-2-pentanone (MIBK)	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 UJ	10 UJ	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Acetone	µg/L	NA	10 U	NA	4.7 J	NA	NA	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Benzene	µg/L	NA	1100	NA	890	NA	NA	2.8 J	15	6.0	6.9	950 J	590	660	NA	420	300	3.0 J	2.9 J
Bromodichloromethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Carbon disulfide	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	NA	5.0 U	NA	1.4 J	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Chloroform	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/L	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	NA
Methylene chloride	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	NA	0.6 J	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	0.4 J	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 J	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	µg/L	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U
Xylenes (Total)	µg/L	NA	142	NA	118	NA	NA	6.8 J	20	21	23	178	120	130	NA	67	47	2 J	1.9 J
Metals (EPA 6010A)																			
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	44 J	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	600 U	NA	NA	10 U	NA	60 U	NA	NA	10 U	NA	NA	60 U	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	5.1	NA	NA	4.1 J	NA	5.0 U	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA
Barium	µg/L	NA	NA	NA	NA	100 U	NA	NA	21	NA	22	NA	NA	22	NA	NA	21	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	20 U	NA	NA	2.0 U	NA	2.0 U	NA	NA	2.0 U	NA	NA	2.0 U	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	50 U	NA	NA	3.7 J	NA	4.5	NA	NA	3.7 J	NA	NA	2.0 U	NA	NA
Calcium	µg/L	NA	NA	NA	NA	530000	NA	NA	280000	NA	350000	NA	NA	340000	NA	NA	330000	NA	NA
Chromium	µg/L	NA	NA	NA	NA	100 U	NA	NA	5.3 J	NA	10 U	NA	NA	1.5 J	NA	NA	10 U	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	200 U	NA	NA	18 U	NA	20 U	NA	NA	18 U	NA	NA	20 U	NA	NA
Copper	µg/L	NA	NA	NA	NA	100 U	NA	NA	10 U	NA	10 U	NA	NA	10 U	NA	NA	10 U	NA	NA
Iron	µg/L	1700 J	NA	NA	NA	3600	510 J	NA	520	NA	240	NA	NA	61	270 J	NA	620	NA	NA
Lead	µg/L	NA	NA	NA	NA	3.0 U	NA	NA	3.0 U	NA	3.0 U	NA	NA	3.0 U	NA	NA	3.0 U	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	310000	NA	NA	180000	NA	220000	NA	NA	330000	NA	NA	170000	NA	NA
Manganese	µg/L	NA	NA	NA	NA	680	NA	NA	760	NA	820	NA	NA	1700	NA	NA	220	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	200 U	NA	NA	14 J	NA	25	NA	NA	15 J	NA	NA	70	NA	NA
Nickel	µg/L	NA	NA	NA	NA	200 U	NA	NA	20 J	NA	27	NA	NA	30 J	NA	NA	20 U	NA	NA
Potassium	µg/L	8800 J	NA	NA	NA	8100	6200 J	NA	5200	NA	3700	NA	NA	4600	7300 J	NA	4500	NA	NA
Selenium	µg/L	NA	NA	NA	NA	29	NA	NA	96	NA	99	NA	NA	5.0 U	NA	NA	5.0 U	NA	NA
Silver	µg/L	NA	NA	NA	NA	50 U	NA	NA	10 U	NA	5.0 U	NA	NA	10 U	NA	NA	5.0 U	NA	NA
Sodium	µg/L	NA	NA	NA	NA	170000	NA	NA	170000	NA	170000	NA	NA	170000	NA	NA	150000	NA	NA
Thallium	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	10 U	NA	5.0 U	NA	NA	10 U	NA	NA	5.0 U	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	100 U	NA	NA	18	NA	24	NA	NA	16	NA	NA	10 U	NA	NA
Zinc	µg/L	NA	NA	NA	NA	200 U	NA	NA	34	NA	20 U	NA	NA	16	NA	NA	20 U	NA	NA
General Chemistry																			
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	4100	NA	NA	3500	NA	3500	NA	NA	4200	NA	NA	3300	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	2700	NA	NA	1500	NA	1500	NA	NA	2300	NA	NA	2400	NA	NA
pH (EPA 150.1)	pH Units	7.0	NA	NA	NA	NA	6.3	NA	NA	NA	NA	NA	NA	NA	6.9	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	3300	NA	NA	NA	NA	2900	NA	NA	NA	NA	NA	NA	NA	2500	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	16	NA	NA	NA	NA	11	NA	NA	NA	NA	NA	NA	NA	11	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	490	NA	NA	NA	NA	450	NA	NA	NA	NA	NA	NA	NA	550	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	290	NA	NA	NA	390	440 J	NA	NA	330 J	NA	NA	260 J	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	0.11	NA	NA	NA	0.26	0.24	NA	NA	0.14	NA	NA	0.23	NA	NA
Ammonia (EPA 350.1)	mg/L	0.13	NA	NA	NA	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	0.024 J	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.3)	mg/L	1.0 U	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA	NA	NA	NA	1.0 U	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	13	NA	NA	NA	9.1	20	NA	NA	21	20	NA	NA	15	6.7	NA	6.0	NA	NA
Phosphate (EPA 365.2)	mg/L	0.080	NA	NA	NA	0.030 U	0.070	NA	NA	0.030 U	0.030 U	NA	NA	0.040	0.13	NA	0.030	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	1600	NA	NA	NA	1400	880	NA	NA	770	750	NA	NA	1400	930	NA	820	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	10 U	NA	NA	10 U	NA	NA	10 U	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	15	NA	NA	55	NA	15 J	NA	NA	15 J	NA	NA	15	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	2.9	NA	NA	NA	NA	1.8	NA	NA	NA	NA	NA	NA	NA	2.9	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	0.02 U	NA	NA	NA	NA	0.02 U	NA	NA	0.02	NA	NA	0.03	NA	NA
Ignitability (EPA 1010)	C	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (EPA 7470A)	µg/L	NA	NA	NA	NA	0.20 U	NA	NA	0.20 U	NA	0.20 U	NA	NA	0.20 U	NA	NA	0.20 U	NA	NA
Microbiology																			
Heterotrophic Plate Count (SM 9215-D)	cfu/mL	1400	NA	NA	NA	NA	2600	NA	NA	NA	NA	NA	NA	NA	3500	NA	NA	NA	NA

Table C-2 Cont'd
Summary of Analytical Results for Tank Farm 2
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF2-W-1468	96-TF2-W-821	96-TF2-W-1469	96-TF2-W-822	97-TF2-W-1498	96-TF2-W-830	96-TF2-W-1456	96-TF2-W-1457	96-TF2-W-761	96-TF2-W-782	96-TF2-W-800	96-TF2-W-815	96-TF2-W-831	96-TF2-W-1454	96-TF2-W-1455	96-TF2-W-1458	96-TF2-W-1461	96-TF2-W-1467
Sample Location		13_UGMW32	13_DBMW49	13_BDMW49	13_DGMW78	13_DGMW78	15_DBMW51	15_BDMW51	15_BDMW51	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Date Collected		12/27/96	09/04/96	12/27/96	09/04/96	1/10/97	09/05/96	12/20/96	12/20/96	08/28/96	08/29/96	08/30/96	09/03/96	09/05/96	12/16/96	12/20/96	12/23/96	12/24/96	12/27/96
	Unit																		
Total Petroleum Hydrocarbons (CA LUFT-8015M)																			
TPH As Diesel	µg/L	NA	500 U	NA	500 U	NA	520 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH As Gasoline	µg/L	220 P	53 P	50 U	520 P	630 P	41 PJ	120 P	110 P	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPH As JP-5	µg/L	NA	500 U	NA	500 U	NA	520 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TPH-Extractable	µg/L	520 U	170 J	530 U	230 J	500 U	330 J	500 U	500 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Aromatic Compounds (EPA 8020)																			
Benzene	µg/L	1.0 U	0.7 J	0.9 J	1.0 U	1.0 U	1.9 J	18	17	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	NA	NA	NA	NA	1.0 U	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	NA
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.2	4.1	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)																			
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.1 J	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	5.0 U	5.0 U	5.0 U	0.5 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (MEK)	µg/L	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 U	10 UJ	NA	24 J	24 J	10 UJ	10 U	10 U	10 U	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	10 R	10 UJ	10 R	10 UJ	10 U	10 UJ	10 U	10 U	10 UJ	NA	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 R
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	5.8 J	5.1 J	10 UJ	NA	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	10 U	10 U
Benzene	µg/L	5.0 U	0.8 J	5.0 U	0.6 J	5.0 U	1.7 J	17	19	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	4.3 J	4.3 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl tert-butyl ether (MTBE)	µg/L	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	3.3 J	NA	2.7 J	2.6 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichlorofluoromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Xylenes (Total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.6 J	3.4 J	3.1 J	5.0 U	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Metals (EPA 6010A)																			
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																			
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability (EPA 1010)	C	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (EPA 7470A)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																			
Heterotrophic Plate Count (SM 9215-D)	cfu/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-2 Cont'd
Summary of Analytical Results for Tank Farm 2
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF2-W-1470	97-TF2-W-1497	97-TF2-W-1502	97-TF2-W-1546	96-TF2-W-762	96-TF2-W-783	96-TF2-W-801	96-TF2-W-803	96-TF2-W-1453	96-TF2-W-1460	96-TF2-W-1471	97-TF2-W-1499	97-TF2-W-1503	97-TF2-W-1549	97-TF2-W-1505
Sample Location		Trip Blank	Trip Blank	Trip Blank	Trip Blank	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Source Blank
Date Collected		12/31/96	1/10/97	1/13/97	1/28/97	08/28/96	08/29/96	08/30/96	08/30/96	12/16/96	12/24/96	12/31/96	1/10/97	1/13/97	1/28/97	1/13/97
	Unit															
Total Petroleum Hydrocarbons (CA LUFT-8015M)																
TPH As Diesel	µg/L	NA	NA	NA	NA	NA	NA	520 U	590 U	NA	NA	NA	NA	NA	520 U	NA
TPH As Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	88 P	50 U	50 U	65 P	54 P	50 U	50 U	50 U	50 U
TPH As JP-5	µg/L	NA	NA	NA	NA	NA	NA	520 U	590 U	NA	NA	NA	NA	NA	NA	NA
TPH-Extractable	µg/L	NA	NA	NA	NA	NA	NA	520 U	590 U	500 U	530 U	500 U	NA	500 U	NA	500 U
Volatile Aromatic Compounds (EPA 8020)																
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	2.8	3.8	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	0.3 J	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 UJ	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	NA	NA	1.0 U	1.2	3.0	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)																
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 UJ	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	NA	NA	5.0 U	NA
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
2-Butanone (MEK)	µg/L	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 UJ	NA
2-Chloroethyl vinyl ether	µg/L	10 UJ	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	NA	10 UJ	NA
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	10 U	NA	NA	10 U	NA
4-Methyl-2-pentanone (MIBK)	µg/L	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 UJ	NA
Acetone	µg/L	10 UJ	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	NA	10 UJ	NA
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.6 J	7.6	4.2 J	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.6	9.0	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Bromomethane	µg/L	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	NA	10 U	NA
Carbon disulfide	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 UJ	NA	NA	5.0 U	NA
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Chloroethane	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 U	NA
Chloroform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	11 J	11	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Chloromethane	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 U	NA
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.7	5.8	5.0 U	5.0 U	0.5 J	NA	NA	5.0 U	NA
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Methyl tert-butyl ether (MTBE)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.5 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Trichlorofluoromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	NA
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 U	NA
Vinyl chloride	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	NA	10 U	NA
Xylenes (Total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	0.4 J	5.0 U	3.3 J	2 J	5.0 U	5.0 U	1.9	NA	NA	5.0 U	NA
Metals (EPA 6010A)																
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ignitability (EPA 1010)	C	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60	NA
Mercury (EPA 7470A)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																
Heterotrophic Plate Count (SM 9215-D)	cfu/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-3
Summary of Analytical Results for Tank Farm 3
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF3-W-1421	97-TF3-W-1542	96-TF3-W-888	97-TF3-W-1530	96-TF3-W-942	97-TF3-W-1524	96-TF3-W-1420	96-TF3-W-886	96-TF3-W-940	97-TF3-W-1521
Sample Location		TF3MW-01	TF3MW-01	TF3MW-02	TF3MW-02	TF3MW-03	TF3MW-03	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Date Collected		11/06/96	1/20/97	09/12/96	1/16/97	09/18/96	1/15/97	11/06/96	09/12/96	09/18/96	1/15/97
	Unit										
Total Petroleum Hydrocarbons (CA LUFT-8015M)											
TPH As Diesel	µg/L	530 U	500 U	520 U	600 U	560 U	500 U	NA	NA	NA	NA
TPH As Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPH As JP-5	µg/L	530 U	500 U	520 U	600 U	560 U	500 U	NA	NA	NA	NA
TPH-Extractable	µg/L	530 U	500 U	520 U	600 U	500 U	500 U	NA	NA	NA	NA
Volatile Aromatic Compounds (EPA 8020)											
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Metals (EPA 6010A)											
Antimony	µg/L	NA	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA
Arsenic	µg/L	NA	5.0 U	NA	7.0	NA	5.6	NA	NA	NA	NA
Barium	µg/L	NA	20	NA	46	NA	21	NA	NA	NA	NA
Beryllium	µg/L	NA	2.0 U	NA	2.0 U	NA	2.0 U	NA	NA	NA	NA
Cadmium	µg/L	NA	2.0 U	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA
Calcium	µg/L	NA	350000	NA	270000	NA	98000	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	NA	20	NA	10 U	NA	NA	NA	NA
Cobalt	µg/L	NA	20 U	NA	20 U	NA	20 U	NA	NA	NA	NA
Copper	µg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA
Iron	µg/L	900	430	860	4300	590	1300	NA	NA	NA	NA
Lead	µg/L	NA	3.0 U	NA	3.0 U	NA	3.0 U	NA	NA	NA	NA
Magnesium	µg/L	NA	310000	NA	200000	NA	80000	NA	NA	NA	NA
Manganese	µg/L	NA	32	NA	90	NA	42	NA	NA	NA	NA
Molybdenum	µg/L	NA	21	NA	20 U	NA	20 U	NA	NA	NA	NA
Nickel	µg/L	NA	20 U	NA	20 U	NA	20 U	NA	NA	NA	NA
Potassium	µg/L	5900	3800	9600	5700	5900	3500	NA	NA	NA	NA
Selenium	µg/L	NA	250	NA	180	NA	21	NA	NA	NA	NA
Silver	µg/L	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA
Sodium	µg/L	NA	210000	NA	220000	NA	170000	NA	NA	NA	NA
Thallium	µg/L	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	NA	NA
Vanadium	µg/L	NA	14	NA	27	NA	20	NA	NA	NA	NA
Zinc	µg/L	NA	120	NA	26	NA	20 U	NA	NA	NA	NA
General Chemistry											
Specific Conductance (EPA 120.1)	µmhos/cm	NA	5300	NA	3500	NA	1600	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1700	NA	510	NA	570	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.2	NA	7.3	NA	7.6	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	3600	NA	2400	NA	1100	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	18 J	NA	2.0 J	NA	7.0	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	180	NA	220	NA	520	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	320	NA	390	NA	68	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	0.28	NA	0.38	NA	0.31	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.1 U	NA	0.1 U	NA	0.1 U	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	28	21	12	15	3.3	4.1	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.10	0.060	0.090	0.14	0.11	0.040	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	2000	1700	930	980	300	190	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD)(EPA 405.1)	mg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA
Chemical Oxygen Demand (COD)(EPA 410.4)	mg/L	NA	10 U	NA	15	NA	10 U	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	1.4	NA	1.8	NA	2.0	NA	NA	NA	NA	NA
Total Organic Halides (TOX)(EPA 450.1)	mg/L	NA	0.02 U	NA	0.02 U	NA	0.02 U	NA	NA	NA	NA
Microbiology											
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	5000	NA	24000	NA	2000	NA	NA	NA	NA	NA

Table C-3 Cont'd
Summary of Analytical Results for Tank Farm 3
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF3-W-887	96-TF3-W-941	97-TF3-W-1523	97-TF3-W-1525	97-TF3-W-1529	97-TF3-W-1541	97-TF3-W-1522
Sample Location		Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Source Blank
Date Collected		09/12/96	09/18/96	1/15/97	1/15/97	1/16/97	1/20/97	1/15/97
	Unit							
Total Petroleum Hydrocarbons (CA LUFT-8015M)								
TPH As Diesel	µg/L	500 U	570 U	500 U	530 U	530 U	500 U	560 U
TPH As Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	52 P	50 U
TPH As JP-5	µg/L	500 U	570 U	500 U	530 U	530 U	500 U	560 U
TPH-Extractable	µg/L	500 U	500 U	500 U	530 U	530 U	500 U	560 U
Volatile Aromatic Compounds (EPA 8020)								
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Metals (EPA 6010A)								
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	41 U	94	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	1000 U	1000 U	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA
General Chemistry								
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	6.5	6.3	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	4.0 U	4.0 U	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	4.0 U	1.0 U	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	3.0 J	10 U	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.1 U	0.1 U	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	1.0 U	1.0 U	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2)(EPA 353.3)	mg/L	0.11	0.040 U	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.030 U	0.030 U	NA	NA	NA	NA	NA
Sulfate (EPA 375.2)(EPA 375.3)	mg/L	5.0 U	5.0 U	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD)(EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD)(EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	1.0 U	1.0 U	NA	NA	NA	NA	NA
Total Organic Halides (TOX)(EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA
Microbiology								
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	16000	200 U	NA	NA	NA	NA	NA

Table C-4
Summary of Analytical Results For Tank Farm 4
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF4-W-264	96-TF4-W-375	96-TF4-W-376	96-TF4-W-269	96-TF4-W-378	96-TF4-W-275	97-TF4-W-381	96-TF4-W-266	96-TF4-W-370	96-TF4-W-272	96-TF4-W-372	96-TF4-W-262	96-TF4-W-265	96-TF4-W-273	96-TF4-W-267	96-TF4-W-270
Sample Location		TF4MW-01	TF4MW-01	TF4MW-01	TF4MW-02	TF4MW-02	TF4MW-03	TF4MW-03	18_BGMW16	18_BGMW16	20_UGMW36	20_UGMW36	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Date Collected		09/27/96	12/31/96	12/31/96	10/04/96	12/31/96	10/03/96	1/6/97	10/02/96	12/30/96	10/07/96	12/30/96	09/27/96	10/02/96	10/03/96	10/04/96	10/07/96
	Unit																
Total Petroleum Hydrocarbons (CA LUFT-8015M)																	
TPH As Diesel	µg/L	170	100 U	100 U	200 R	100 U	6600	70 J	5500	100 U	100 U	100 U	NA	NA	NA	NA	NA
TPH As Gasoline	µg/L	1100	300	300	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)																	
Benzene	µg/L	340	120	110	0.3 U	0.3 U	2.1	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.6 U	0.3 U	0.3 U	0.3 U	0.3 U	1.5	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.6 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	76	20	18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)																	
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
2-Hexanone	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
Acetone	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
Benzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Bromoform	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Bromomethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Chloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Chloroform	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Chloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Methylene chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	2.8 J	NA	NA	1.2 J
Styrene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Toluene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	0.8 J	5 U	NA	5 U	NA	NA	5 U
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Trichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Vinyl acetate	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	NA	10 U	NA	NA	10 U
Vinyl chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	5 U	NA	5 U	NA	NA	5 U
Metals (EPA 6010A)																	
Aluminum	µg/L	NA	102 U	172 U	NA	718 U	NA	199	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	60 U	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	10 U	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	200 U	200 U	NA	200 U	NA	200 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	5 U	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	5 U	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	92300	89600	NA	159000	NA	131000 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	50 U	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	25 U	25 U	NA	25 U	NA	25 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	1160	235	181	1460	3950	1520	1590	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	3 U	3 U	NA	3 U	NA	44.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	87100	85200	NA	98400	NA	114000	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	84.3	79.8	NA	66	NA	171	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	52.8	50 U	NA	56.7	NA	56.5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	40 U	40 U	NA	40 U	NA	40 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	4150	5540 U	5160 U	6880	4260 U	4070	6730 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	17.4	12.8	NA	21.1	NA	51.0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	10 U	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	237000	236000	NA	217000	NA	191000 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	10 U	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	50 U	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	20 U	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A																	
Mercury (EPA 7470A)	µg/L	NA	0.2 U	0.31	NA	0.32	NA	0.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 9250																	
Chloride (EPA 9250)	mg/L	NA	NA	NA	NA	NA	NA	211	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																	
Specific Conductance (EPA 120.1)	µmhos/cm	NA	3165	1983	NA	2866	NA	33900	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	589	574	NA	802	NA	796	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	8.1	NA	NA	7.8 J	NA	8.00 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	1300	NA	NA	1700	NA	1450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	11	NA	NA	15	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	171	168	NA	181	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	1 U	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	4.7	3.30	3.32	4.21	5.10	6.05	2.91	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	1 U	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.0)	mg/L	487	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	445	NA	NA	313	NA	379	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.2)	mg/L	0.05 U	NA	NA	0.05 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (EPA 351.2)	mg/L	0.1 U	NA	NA	0.12	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	0.2 U	NA	NA	0.05 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.4)	mg/L	NA	746	691	429	664	547	693	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	13	12	NA	12	NA	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	15	20	NA	20	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	50 U	50 U	NA	50 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																	
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	7600	NA	NA	200	NA	2600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-4 Cont'd
Summary of Analytical Results For Tank Farm 4
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF4-W-368	96-TF4-W-373	97-TF4-W-379	96-TF4-W-263	96-TF4-W-274	96-TF4-W-268	96-TF4-W-271	96-TF4-W-369	96-TF4-W-371	96-TF4-W-374	96-TF4-W-377	97-TF4-W-380
Sample Location		Trip Blank	Trip Blank	Trip Blank	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		12/30/96	12/31/96	1/6/97	09/27/96	10/03/96	10/04/96	10/07/96	12/30/96	12/30/96	12/31/96	12/31/96	1/6/97
	Unit												
Total Petroleum Hydrocarbons (CA LUFT-8015M)													
TPH As Diesel	µg/L	NA	NA	NA	100 U	100 U	340	100 U	100 U	100 U	100 U	100 U	90 J
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)													
Benzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)													
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA
2-Hexanone	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA
Acetone	µg/L	NA	NA	NA	NA	NA	NA	9.0 J	10 U	8.7 J	NA	NA	NA
Benzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Bromoform	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Bromomethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Chloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Chloroform	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Chloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Methylene chloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Styrene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Toluene	µg/L	NA	NA	NA	NA	NA	NA	1.0 J	5 U	5 U	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Trichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Vinyl acetate	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA
Vinyl chloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA
Metals (EPA 6010A)													
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	20 U	20 U	20 U	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	1000 U	1000 U	1000 U	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A													
Mercury (EPA 7470A)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 9250													
Chloride (EPA 9250)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry													
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	NA	NA	NA	5.2	5.90 J	5.8 J	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	NA	NA	NA	0.5 U	1 U	0.2 U	NA	NA	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.0)	mg/L	NA	NA	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.2)	mg/L	NA	NA	NA	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (EPA 351.2)	mg/L	NA	NA	NA	0.1 U	0.1 U	0.1 U	NA	NA	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	NA	NA	NA	0.2 U	0.05 U	0.05 U	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.4)	mg/L	NA	NA	NA	NA	1 U	1 U	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	NA	NA	NA	5 U	5 U	5 U	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology													
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	NA	NA	NA	150	1 U	1 U	NA	NA	NA	NA	NA	NA

Table C-5
Summary of Analytical Results for Tank Farm 555
MCAS El Toro, Santa Ana, California

M Sample Number		96-TF555-W-252	97-TF555-W-412	96-TF555-W-255	97-TF555-W-403	96-TF555-W-249	97-TF555-W-409	97-TF555-W-410	96-TF555-W-261	97-TF555-W-394	96-TF555-W-258	97-TF555-W-398	96-TF555-W-288	97-TF555-W-396	96-TF555-W-286	97-TF555-W-392	96-TF555-W-266	96-TF555-W-236	97-TF555-W-406	96-TF555-W-239	97-TF555-W-413	97-TF555-W-414
ple Location		TF555MW-01	TF555MW-01	TF555MW-02	TF555MW-02	TF555MW-03	TF555MW-03	TF555MW-03	TF555MW-04	TF555MW-04	TF555MW-05	TF555MW-05	TF555PZ-01	TF555PZ-01	TF555PZ-02	TF555PZ-02	TF555PZ-03	17_NEW1	17_NEW01	03_BGMW26	03_BGMW26	03_BGMW26
ate Collected		09/25/96	2/4/97	09/25/96	1/29/97	09/24/96	2/4/97	2/4/97	09/26/96	1/22/97	09/25/96	1/23/97	10/24/96	1/22/97	10/24/96	1/22/97	09/27/96	09/20/96	1/31/97	09/23/96	2/7/97	2/7/97
	Unit																					
Total Petroleum Hydrocarbons (CA LUFT-8015M)																						
TPH As Diesel	µg/L	220	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)																						
Benzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)																						
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 UJ	NA	10 UJ	NA	NA	10 U	10 U	10 UJ	10 U	10 U
2-Hexanone	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 UJ	NA	10 UJ	NA	NA	10 U	10 UJ	10 U	10 UJ	10 UJ
Benzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Bromoform	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Bromomethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Chloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Chloroform	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Chloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Methylene chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	2.2 J	5 U	5 U	1.5 J
Styrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	1.2 J	1.1 J
Toluene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
ans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	NA	NA
is-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
hloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	0.8 J
hlorofluoromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 UJ	NA	5 UJ	NA	NA	5 UJ	5 U	5 U	5 U	5 U
yl acetate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	NA	10 U	NA	NA	10 U	10 U	10 UJ	10 U	10 UJ
nyl chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 UJ	5 UJ
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 U	NA	5 U	NA	NA	5 U	5 U	5 U	5 U	5 U
Metals (EPA 6010A)																						
Aluminum	µg/L	NA	122 U	NA	50 U	NA	50.8 U	50 U	NA	86.6	NA	2130	NA	255	NA	495	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	60 U	NA	60 U	NA	60 U	60 U	NA	60 U	NA	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	10 U	NA	10 U	NA	12.7	10 U	NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	200 U	NA	200 U	NA	200 U	200 U	NA	200 U	NA	200 U	NA	200 U	NA	200 U	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	5 U	NA	5 U	NA	5 U	5 U	NA	5 U	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	5 U	NA	5 U	NA	5 U	5 U	NA	5 U	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	55200	NA	85600	NA	71300	80400	NA	27200	NA	46700	NA	121000	NA	114000	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	NA	10 U	NA	10 U	10 U	NA	10 U	NA	23.3	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	50 U	NA	50 U	NA	50 U	50 U	NA	50 U	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	25 U	NA	25 U	NA	25 U	25 U	NA	25 U	NA	25 U	NA	25 U	NA	25 U	NA	NA	NA	NA	NA	NA
Iron	µg/L	1270	486	93	228	340	144	156	709	685	60.5	2600	NA	239	NA	599	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	3 U	NA	3 U	NA	3 U	3 U	NA	3 U	NA	3 U	NA	3 U	NA	3 U	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	27800	NA	40500	NA	20400	23200	NA	28200	NA	42200	NA	72300	NA	47600	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	371	NA	87.7	NA	13.7	15.9	NA	66.4	NA	61.2	NA	24.2	NA	53	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	69.8	NA	50 U	NA	50 U	50 U	NA	50 U	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	40 U	NA	40 U	NA	40 U	40 U	NA	40 U	NA	40 U	NA	40 U	NA	63.5	NA	NA	NA	NA	NA	NA
Potassium	µg/L	4580	4080	5240	5100	4110	3750	4500	5970	6070	5310	7150	NA	8130	NA	4010	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	14.4	NA	28.5	NA	36.8	21.8	NA	5 U	NA	5.96 U	NA	13.8 U	NA	22 U	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	10 U	NA	10 U	NA	10 U	10 U	NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	176000	NA	92100	NA	84400	97300	NA	156000	NA	126000	NA	148000	NA	99000	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	10 U	NA	10 U	NA	10 U	10 U	NA	10 U	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	50 U	NA	50 U	NA	50 U	50 U	NA	50 U	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	NA	39.3	NA	20 U	20 U	NA	20 U	NA	20 U	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA
EPA 7470A																						
Mercury	µg/L	NA	0.2 U	NA	0.2 U	NA	0.217	0.2 U	NA	0.2 U	NA	0.328	NA	0.2 U	NA	0.2 U	NA	NA	NA	NA	NA	NA
General Chemistry																						
pH (EPA 9045)	pH Units	7.4	NA	7.5	NA	7.4	NA	NA	8.0	NA	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1291	NA	1103	NA	1007	1003	NA	952	NA	1080	NA	1740	NA	1310	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	253	NA	380.80	NA	262	296	NA	184.2	NA	290.2	NA	600.1	NA	480.4	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	810	NA	810	NA	715	NA	NA	620	NA	795	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	179	NA	10 U	NA	37	NA	NA	10 U	NA	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	84	NA	165	NA	103	105	NA	95.7	NA	133	NA	374	NA	204	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	1 U	NA	1 U	NA	1 U	1 U	NA	0.8	NA	1.03	NA	0.68	NA	0.69	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	2.45 J	1.0	2.74 J	2.25	18.7 J	15	15	0.5 U	0.2 U	1.53 J	0.99	NA	3.20	NA	3.78	NA	NA	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	1 U	NA	1 U	NA	1 U	1 U	NA	0.4 U	NA	1 U	NA	0.4 U	NA	0.4 U	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.00)	mg/L	NA	106	NA	100	NA	75	71	NA	138	NA	126	NA	93.1	NA	84.2	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	473	NA	299	NA	227	NA	NA	221	NA	247	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.2)(EPA 350.3)	mg/L	0.05 U	NA	NA	NA	0.05 U	NA	NA	0.05 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN)(EPA 351.2)	mg/L	0.1 U	NA	0.1 U	NA	0.1 U	NA	NA	0.24	NA	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	0.05 U	NA	0.05 U	NA	0.05 U	NA	NA	0.05 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ulfate (EPA 375.3)(EPA 375.4)	mg/L	52.3	NA	92	NA	38.9	NA	NA	144	NA	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
hemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	25 U	NA	1 U	NA	25 U	25 U	NA	25 U	NA	25 U	NA	25 U	NA	25 U	NA	NA	NA	NA	NA	NA
mical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	10 U	NA	10 U	NA	19	10 U	NA	10 U	NA	10 U	NA	10	NA	10	NA	NA	NA	NA	NA	NA
al Organic Carbon (TOC) (EPA 415.1)	mg/L	5 UJ	NA	5 UJ	NA	5 UJ	NA	NA	5 U	NA	5 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
al Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	0.05 U	NA	0.05 U	NA	NA	0.05 U	NA	0.05 U	NA	0.068	NA	0.05 U	NA	NA	NA	NA	NA	NA
Microbiology																						
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	6700	NA	2000	NA	1800	NA	NA	1500	NA	2300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-5 Cont'd
Summary of Analytical Results for Tank Farm 555
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-TF555-W-238	97-TF555-W-405	96-TF555-W-235	96-TF555-W-237	96-TF555-W-247	96-TF555-W-250	96-TF555-W-253	96-TF555-W-256	96-TF555-W-265	96-TF555-W-285	97-TF555-W-390	97-TF555-W-401	97-TF555-W-404	97-TF555-W-407	97-TF555-W-415	96-TF555-W-248	96-TF555-W-251	96-TF555-W-254	96-TF555-W-257	96-TF555-W-260	96-TF555-W-287
Sample Location		17_DGMW82	17_DGMW82	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Trip Blank	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		09/23/96	1/31/97	09/20/96	09/23/96	09/24/96	09/24/96	09/25/96	09/25/96	09/27/96	10/24/96	1/22/97	1/29/97	1/31/97	2/4/97	2/7/97	09/24/96	09/24/96	09/25/96	09/25/96	09/26/96	10/24/96
	Unit																					
Total Petroleum Hydrocarbons (CA LUFT-8015M)																						
TPH As Diesel	µg/L	100 U	100 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 U	100 U	100 U	100 U	100 U	100 U
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	NA	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)																						
Benzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)																						
1,1,1-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,1,2,2-Tetrachloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,1,2-Trichloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,1-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,1-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,2-Dichloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
1,2-Dichloropropane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
2-Butanone (MEK)	µg/L	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	10 U
2-Chloroethyl vinyl ether	µg/L	10 UJ	10 U	10 U	10 UJ	NA	NA	NA	NA	NA	10 UJ	NA	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	10 UJ
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	10 U	10 U	10 U	10 U	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	10 U
Acetone	µg/L	10 U	10 UJ	10 U	10 U	NA	NA	NA	NA	NA	10 UJ	NA	NA	10 UJ	NA	10 UJ	NA	NA	NA	NA	NA	14 J
Benzene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Bromodichloromethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Bromoform	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Bromomethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Carbon disulfide	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Carbon tetrachloride	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Chlorobenzene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Chloroethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Chloroform	µg/L	1.2 J	0.6 J	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Chloromethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
cis-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
cis-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Dibromochloromethane	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Ethylbenzene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Methylene chloride	µg/L	5 U	5 U	2.2 J	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	1.9 J	NA	NA	NA	NA	NA	5 U
Styrene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Tetrachloroethene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Toluene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
trans-1,2-Dichloroethene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	NA	NA	NA	NA	NA	NA	5 U
trans-1,3-Dichloropropene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Trichloroethene	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Trichlorofluoromethane	µg/L	5 U	5 U	5 UJ	5 U	NA	NA	NA	NA	NA	5 UJ	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 UJ
Vinyl acetate	µg/L	10 UJ	10 U	10 U	10 UJ	NA	NA	NA	NA	NA	10 U	NA	NA	10 U	NA	10 UJ	NA	NA	NA	NA	NA	10 U
Vinyl chloride	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 UJ	NA	NA	NA	NA	NA	5 U
Xylenes (Total)	µg/L	5 U	5 U	5 U	5 U	NA	NA	NA	NA	NA	5 U	NA	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	5 U
Metals (EPA 6010A)																						
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20 U	20 U	20 U	20 U	20 U	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U	1000 U	1000 U	1000 U	1000 U	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A																						
Mercury	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																						
pH (EPA 9045)	pH Units	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.3	5.5	5.7	6.8	5.5	NA
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	70	15	15	10	10 U	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	8	10 U	NA
Chloride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.1 U	NA
Phosphate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	NA
Ammonia (EPA 350.2)(EPA 350.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.5 U	NA
Total Kjeldahl Nitrogen (TKN)(EPA 351.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	1 U	1 U	0.05 U	0.1 U	NA
Phosphorus, Total (EPA 365.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NA
Sulfate (EPA 375.3)(EPA 375.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.18	1 U	1 U	1 U	1 U	NA
Chemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5 UJ	5 UJ	5 UJ	5 UJ	5 U	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																						
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7	1 U	320	320	3700	NA

Table C-5 Cont'd
Summary of Analytical Results for Tank Farm 555
MCAS El Toro, Santa Ana, California

OHM Sample Number		97-TF555-W-391	97-TF555-W-393	97-TF555-W-395	97-TF555-W-397	97-TF555-W-402	97-TF555-W-408	97-TF555-W-411	97-TF555-W-416
Sample Location		Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		1/22/97	1/22/97	1/22/97	1/22/97	1/29/97	2/4/97	2/4/97	2/7/97
	Unit								
Total Petroleum Hydrocarbons (CA LUFT-8015M)									
TPH As Diesel	µg/L	100 U	100 U	100 U	100 U	160	100 U	100 U	100 U
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)									
Benzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)									
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U
2-Hexanone	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	NA	NA	10 U
Acetone	µg/L	NA	NA	NA	NA	NA	NA	NA	10 J
Benzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Bromoform	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Bromomethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Chloroethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Chloroform	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Chloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Methylene chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Styrene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Toluene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Trichloroethene	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Vinyl acetate	µg/L	NA	NA	NA	NA	NA	NA	NA	10 UJ
Vinyl chloride	µg/L	NA	NA	NA	NA	NA	NA	NA	5 UJ
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	NA	NA	5 U
Metals (EPA 6010A)									
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A									
Mercury	µg/L	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry									
pH (EPA 9045)	pH Units	NA	NA	NA	NA	NA	NA	NA	NA
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 130.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.2)(EPA 350.3)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (EPA 351.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.3)(EPA 375.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology									
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	NA	NA	NA	NA	NA	NA	NA	NA

Table C-6
Summary of Analytical Results for Tank Farms 5 and 6
MCAS El Toro, Santa Ana, California

OHM Sample Number	Unit	96-TF6-W-934	97-TF6-W-1528	96-TF6-W-938	96-TF6-W-939	97-TF6-W-1544	96-TF6-W-931	97-TF6-W-1536	96-TF6-W-923	97-TF6-W-1540	96-TF6-W-922	97-TF6-W-1537	96-TF6-W-921	97-TF6-W-1532	96-TF6-W-919	96-TF6-W-932	96-TF6-W-936
Sample Location		TF6MW-01	TF6MW-01	TF6MW-02	TF6MW-02	TF6MW-02	04_DGMW66	04_DGMW66	18_BGMW01E	18_BGMW01E	04_UGMW63	04_UGMW63	04_DBMW40	04_DBMW40	Trip Blank	Trip Blank	Trip Blank
Date Collected		09/17/96	1/16/97	09/18/96	09/18/96	1/20/97	09/16/96	1/17/97	09/13/96	1/20/97	09/13/96	1/17/97	09/13/96	1/16/97	09/13/96	09/16/96	09/17/96
Total Petroleum Hydrocarbons (CA LUFT-8015M)																	
TPH As Diesel	µg/L	570 U	480 U	520 U	520 U	500 U	500 U	500 U	560 U	500 U	540 U	500 U	530 U	490 U	NA	NA	NA
TPH As Gasoline	µg/L	1300 P	1400 P	65 P	58 P	57 P	50 U	50 U	1200 P	2100 P	87 P	50 U	800 PJ	220 P	50 U	50 U	50 U
TPH As JP-5	µg/L	570 U	480 U	520 U	520 U	500 U	500 U	500 U	560 U	500 U	540 U	500 U	530 U	490 U	NA	NA	NA
TPH-Extractable	µg/L	350 J	480 U	500 U	360 J	500 U	500 U	500 U	220 J	440 J	140 J	500 U	250 J	490 U	NA	NA	NA
Volatile Aromatic Compounds (EPA 8020)																	
Benzene	µg/L	310	270	1.0 U	0.8 U	1.0 U	1.0 U	1.0 U	110	150	12	7	140 J	40	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	5.0 U	0.7 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NA
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	63.2	26	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	15	22	1.0 U	1.0 U	10 J	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)																	
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	2.8 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	NA
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 U	10 UJ	10 UJ	NA
2-Hexanone	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	13	10 U	10 U	10 U	NA
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	10 U	10 U	10 U	NA
Acetone	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	1.7 J	10 UJ	10 U	10 U	1.7 J	10 U	2.8 J	2.0 J	NA
Benzene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	88	110	12	3.4 J	90	22	5.0 U	5.0 U	NA
Bromodichloromethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Bromoform	µg/L	NA	NA	NA	NA	5.0 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	NA
Bromomethane	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Carbon disulfide	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Carbon tetrachloride	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chlorobenzene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chloroethane	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Chloroform	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Chloromethane	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Dibromochloromethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Ethylbenzene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Methyl tert-butyl ether (MTBE)	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	NA	5.0 U	5.0 U	5.0 U	NA	NA
Methylene chloride	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	3.2 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.9 J	NA
Styrene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Tetrachloroethene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Toluene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 J	5.0 U	0.5 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Trichloroethene	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	NA
Vinyl acetate	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Vinyl chloride	µg/L	NA	NA	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA
Xylenes (Total)	µg/L	NA	NA	NA	NA	5.0 U	5.0 U	5.0 U	11.5	16	5.0 U	5.0 U	6.6 J	5.0 U	5.0 U	5.0 U	NA
Metals (EPA 6010A)																	
Antimony	µg/L	NA	60 U	NA	NA	60 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	5.0 U	NA	NA	9.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	63	NA	NA	36	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	2.0 U	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	5.0 U	NA	NA	2.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	110000	NA	NA	64000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	20 U	NA	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	10 U	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	3400	410	12000	22000	350	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	3.0 U	NA	NA	3.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	59000	NA	NA	44000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	64	NA	NA	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	20 U	NA	NA	20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	20 U	NA	NA	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	5800	2800	8600	9300	4100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	74000	NA	NA	110000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	5.0 U	NA	NA	5.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	28	NA	NA	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	NA	NA	22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A																	
Mercury	µg/L	NA	0.39	NA	NA	0.20 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																	
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1300	NA	NA	1300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	1400	NA	NA	360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.1	NA	7.7	7.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	780	NA	620	630	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	87	NA	38	39	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	370	NA	280	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	120	NA	NA	98	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	0.43	NA	NA	0.53	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	0.1 U	NA	0.15	0.14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	1.0 U	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2) (EPA 353.3)	mg/L	5.4	6.3	3.5	3.6	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	0.060	0.030	0.14	0.16	0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 375.2) (EPA 375.3)	mg/L	100	54	91	120	39 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	10 U	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	15	NA	NA	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	4.3	NA	2.5	2.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	0.05	NA	NA	0.02 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology																	
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	14000	NA	184000	325000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C-6 Cont'd
Summary of Analytical Results for Tank Farm 5 and 6
MCAS El Toro, Santa Ana

OHM Sample Number		96-TF6-W-943	97-TF6-W-1526	97-TF6-W-1533	97-TF6-W-1538	96-TF6-W-920	96-TF6-W-933	96-TF6-W-937	97-TF6-W-1527	97-TF6-W-1531	97-TF6-W-1535	97-TF6-W-1539	97-TF6-W-1543
Sample Location		Trip Blank	Trip Blank	Trip Blank	Trip Blank	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		09/18/96	1/16/97	1/17/97	1/20/97	09/13/96	09/16/96	09/18/96	1/16/97	1/16/97	1/17/97	1/20/97	1/20/97
	Unit												
Total Petroleum Hydrocarbons (CA LUFT-8015M)													
TPH As Diesel	µg/L	NA	NA	NA	NA	540 U	540 U	580 U	480 U	500 U	500 U	510 U	500 U
TPH As Gasoline	µg/L	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPH As JP-5	µg/L	NA	NA	NA	NA	540 U	540 U	580 U	480 U	500 U	500 U	510 U	500 U
TPH-Extractable	µg/L	NA	NA	NA	NA	540 U	540 U	500 U	500	500 U	500 U	510 U	500 U
Volatile Aromatic Compounds (EPA 8020)													
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.6 J	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl tert-butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes (Total)	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Volatile Organic Compounds (EPA 8260A)													
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,1,2-Trichloro-1,2,2-Trifluoroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 UJ	NA
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	10 UJ	NA	NA	NA	NA	10 U	10 U	NA
2-Hexanone	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 UJ	NA
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 UJ	NA
Acetone	µg/L	NA	NA	NA	NA	3.4 J	NA	NA	NA	NA	10 U	10 UJ	NA
Benzene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Bromodichloromethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Bromoform	µg/L	NA	NA	NA	NA	5.0 UJ	NA	NA	NA	NA	5.0 U	5.0 U	NA
Bromomethane	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
Carbon disulfide	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Carbon tetrachloride	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Chlorobenzene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Chloroethane	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
Chloroform	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Chloromethane	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Dibromochloromethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Ethylbenzene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Methyl tert-butyl ether (MTBE)	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	NA	5.0 U	NA
Methylene chloride	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	3.7 J	5.0 U	NA
Styrene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Tetrachloroethene	µg/L	NA	NA	NA	NA	5.0 UJ	NA	NA	NA	NA	5.0 U	5.0 U	NA
Toluene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	0.5 J	5.0 U	NA
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Trichloroethene	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Vinyl acetate	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
Vinyl chloride	µg/L	NA	NA	NA	NA	10 U	NA	NA	NA	NA	10 U	10 U	NA
Xylenes (Total)	µg/L	NA	NA	NA	NA	5.0 U	NA	NA	NA	NA	5.0 U	5.0 U	NA
Metals (EPA 6010A)													
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	NA	NA	NA	NA	NA	64 U	61	NA	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	NA	NA	NA	NA	NA	1000 U	1000 U	NA	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 7470A													
Mercury	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry													
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness as CaCO3 (EPA 130.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	NA	NA	NA	NA	NA	6.2	6.5	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	NA	NA	NA	NA	NA	4.0 U	4.0 U	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	NA	NA	NA	NA	NA	3.5 J	10 U	NA	NA	NA	NA	NA
Chloride (EPA 325.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 340.2)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.1)	mg/L	NA	NA	NA	NA	NA	0.1 U	0.1 U	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.4)	mg/L	NA	NA	NA	NA	NA	1.0 U	1.0 U	NA	NA	NA	NA	NA
Nitrogen (EPA 353.2) (EPA 353.3)	mg/L	NA	NA	NA	NA	NA	NA	0.0060 J	NA	NA	NA	NA	NA
Phosphate (EPA 365.2)	mg/L	NA	NA	NA	NA	NA	0.030 U	0.030 U	NA	NA	NA	NA	NA
Sulfate (EPA 375.2) (EPA 375.3)	mg/L	NA	NA	NA	NA	NA	0.53	5.0 U	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.2)	mg/L	NA	NA	NA	NA	NA	1.0 U	1.8	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Microbiology													
Heterotrophic Plate Count (SM 9215 C)	cfu/mL	NA	NA	NA	NA	NA	NA	3000	NA	NA	NA	NA	NA

Table C-7
Summary of Analytical Results for Tank 390 A and B
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-T390-W-200	97-T390-W-384	96-T390-W-224	97-T390-W-389	96-T390-W-203	97-T390-W-390	96-T390-W-222	97-T390-W-386	96-T390-W-198	96-T390-W-201	96-T390-W-221	97-T390-W-382
Sample Location		T390MW-01	T390MW-01	T390MW-02	T390MW-02	T390MW-03	T390MW-03	18_BGMW02E	18_BGMW02E	Trip Blank	Trip Blank	Trip Blank	Trip Blank
Date Collected		09/19/96	1/21/97	09/19/96	1/21/97	09/19/96	1/21/97	09/19/96	1/21/97	09/19/96	09/19/96	09/19/96	1/21/97
	Unit												
Total Petroleum Hydrocarbons (CA LUFT-8015M)													
TPH As Diesel	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	NA	NA	NA	NA
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)													
Benzene	µg/L	4.0	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)													
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
2-Hexanone	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
Acetone	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
Benzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Bromoform	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Bromomethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Chloroethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Chloroform	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Chloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Methylene chloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	2.6 J	NA	NA	3.5 J	1.7 J
Styrene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	NA	1.3 J	0.9 J	NA	NA	5 U	5 U
Toluene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Trichloroethene	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	NA	NA	5 UJ	5 U	NA	NA	5 UJ	5 U
Vinyl acetate	µg/L	NA	NA	NA	NA	NA	NA	10 U	10 U	NA	NA	10 U	10 U
Vinyl chloride	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	NA	5 U	5 U	NA	NA	5 U	5 U
Metals (EPA 6010A)													
Aluminum	µg/L	NA	50 U	NA	50 U	NA	420	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	60 U	NA	60 U	NA	60 U	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	200 U	NA	200 U	NA	200 U	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	5 U	NA	5 U	NA	5 U	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	103000	NA	107000	NA	109000	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	25 U	NA	25 U	NA	25 U	NA	NA	NA	NA	NA	NA
Iron	µg/L	1230	57.8	455	119	224	602	NA	NA	NA	NA	NA	NA
Lead	µg/L	NA	3 U	NA	3 U	NA	3 U	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	29400	NA	31500	NA	31900	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	10 U	NA	11	NA	14.3	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	69.8	NA	54.4	NA	68.1	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	40 U	NA	40 U	NA	40 U	NA	NA	NA	NA	NA	NA
Potassium	µg/L	4090	2940	3510	3020	4320	3480	NA	NA	NA	NA	NA	NA
Selenium	µg/L	NA	37	NA	5 U	NA	14.7	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	128000	NA	126000	NA	141000	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	10 U	NA	10 U	NA	10 U	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	50 U	NA	50 U	NA	50 U	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	20 U	NA	20 U	NA	20 U	NA	NA	NA	NA	NA	NA
EPA 7470A													
Mercury	µg/L	NA	0.2 U	NA	0.2 U	NA	0.2 U	NA	NA	NA	NA	NA	NA
General Chemistry													
Specific Conductance (EPA 120.1)	µmhos/cm	NA	1270	NA	1230	NA	1280	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	7.4	NA	7.2	NA	7.8	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	905	NA	925	NA	1050	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	14	NA	13	NA	16	NA	NA	NA	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	103	NA	100	NA	106	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	0.4 U	NA	0.4 U	NA	0.4 U	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	11.8	10.8	11.9	10.7	12.4 R	11.1	NA	NA	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	0.4 U	NA	0.4 U	NA	0.4 U	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.0)	mg/L	285	260	277	236	1 R	253	NA	NA	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	183	NA	238	NA	170	NA	NA	NA	NA	NA	NA	NA
Total Hardness (EPA 314A)	mg/L	NA	378	NA	396	NA	403	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.3)	mg/L	0.05 U	NA	0.05 U	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.3)	mg/L	0.5 U	NA	0.5 U	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	0.05 U	NA	0.05	NA	0.05 U	NA	NA	NA	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	4	NA	1 U	NA	6	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	10	NA	10 U	NA	14	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	1	NA	1	NA	1.0	NA	NA	NA	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	0.05 U	NA	0.05 U	NA	0.07	NA	NA	NA	NA	NA	NA
Microbiology													
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	830	NA	3800	NA	12000	NA	NA	NA	NA	NA	NA	NA

Table C-7 Cont'd
Summary of Analytical Results for Tank 390 A and B
MCAS El Toro, Santa Ana, California

OHM Sample Number		96-T390-W-199	96-T390-W-202	96-T390-W-223	97-T390-W-383	97-T390-W-385	97-T390-W-387	97-T390-W-388
Sample Location		Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate	Equipment Rinsate
Date Collected		09/19/96	09/19/96	09/19/96	1/21/97	1/21/97	1/21/97	1/21/97
	Unit							
Total Petroleum Hydrocarbons (CA LUFT-8015M)								
TPH As Diesel	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
TPH As Gasoline	µg/L	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Volatile Aromatic Compounds (EPA 8020)								
Benzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylbenzene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Methyl tert-butyl ether (MTBE)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	µg/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Xylenes (Total)	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Volatile Organic Compounds (EPA 8260A)								
1,1,1-Trichloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,1,2,2-Tetrachloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,1,2-Trichloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,1-Dichloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,1-Dichloroethene	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,2-Dichloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
1,2-Dichloropropane	µg/L	NA	NA	NA	NA	NA	5 U	NA
2-Butanone (MEK)	µg/L	NA	NA	NA	NA	NA	10 U	NA
2-Chloroethyl vinyl ether	µg/L	NA	NA	NA	NA	NA	10 U	NA
2-Hexanone	µg/L	NA	NA	NA	NA	NA	10 U	NA
4-Methyl-2-pentanone (MIBK)	µg/L	NA	NA	NA	NA	NA	10 U	NA
Acetone	µg/L	NA	NA	NA	NA	NA	10 U	NA
Benzene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Bromodichloromethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
Bromoform	µg/L	NA	NA	NA	NA	NA	5 U	NA
Bromomethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
Carbon disulfide	µg/L	NA	NA	NA	NA	NA	5 U	NA
Carbon tetrachloride	µg/L	NA	NA	NA	NA	NA	5 U	NA
Chlorobenzene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Chloroethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
Chloroform	µg/L	NA	NA	NA	NA	NA	5 U	NA
Chloromethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
cis-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	5 U	NA
cis-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Dibromochloromethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
Ethylbenzene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Methylene chloride	µg/L	NA	NA	NA	NA	NA	5.1	NA
Styrene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Tetrachloroethene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Toluene	µg/L	NA	NA	NA	NA	NA	5 U	NA
trans-1,2-Dichloroethene	µg/L	NA	NA	NA	NA	NA	5 U	NA
trans-1,3-Dichloropropene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Trichloroethene	µg/L	NA	NA	NA	NA	NA	5 U	NA
Trichlorofluoromethane	µg/L	NA	NA	NA	NA	NA	5 U	NA
Vinyl acetate	µg/L	NA	NA	NA	NA	NA	10 U	NA
Vinyl chloride	µg/L	NA	NA	NA	NA	NA	5 U	NA
Xylenes (Total)	µg/L	NA	NA	NA	NA	NA	5 U	NA
Metals (EPA 6010A)								
Aluminum	µg/L	NA	NA	NA	NA	NA	NA	NA
Antimony	µg/L	NA	NA	NA	NA	NA	NA	NA
Arsenic	µg/L	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	NA	NA	NA	NA	NA	NA	NA
Beryllium	µg/L	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	NA	NA	NA	NA	NA	NA	NA
Calcium	µg/L	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	NA	NA	NA	NA	NA	NA	NA
Cobalt	µg/L	NA	NA	NA	NA	NA	NA	NA
Copper	µg/L	NA	NA	NA	NA	NA	NA	NA
Iron	µg/L	20 U	20 U	20 U	NA	NA	NA	NA
Lead	µg/L	NA	NA	NA	NA	NA	NA	NA
Magnesium	µg/L	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/L	NA	NA	NA	NA	NA	NA	NA
Molybdenum	µg/L	NA	NA	NA	NA	NA	NA	NA
Nickel	µg/L	NA	NA	NA	NA	NA	NA	NA
Potassium	µg/L	1000 U	1000 U	1000 U	NA	NA	NA	NA
Selenium	µg/L	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	NA	NA	NA	NA	NA	NA	NA
Sodium	µg/L	NA	NA	NA	NA	NA	NA	NA
Thallium	µg/L	NA	NA	NA	NA	NA	NA	NA
Vanadium	µg/L	NA	NA	NA	NA	NA	NA	NA
Zinc	µg/L	NA	NA	NA	NA	NA	NA	NA
EPA 7470A								
Mercury	µg/L	NA	NA	NA	NA	NA	NA	NA
General Chemistry								
Specific Conductance (EPA 120.1)	µmhos/cm	NA	NA	NA	NA	NA	NA	NA
pH (EPA 150.1)	pH Units	5.6	5.8	6.4	NA	NA	NA	NA
Total Dissolved Solids (TDS) (EPA 160.1)	mg/L	10 U	10 U	10 U	NA	NA	NA	NA
Total Suspended Solids (EPA 160.2)	mg/L	10 U	10 U	10 U	NA	NA	NA	NA
Chloride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA
Fluoride (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA
Nitrate (EPA 300.0)	mg/L	12.3 R	0.1 U	0.1 U	NA	NA	NA	NA
Phosphate (EPA 300.00)	mg/L	NA	NA	NA	NA	NA	NA	NA
Sulfate (EPA 300.0)	mg/L	1 R	1 U	1 U	NA	NA	NA	NA
Alkalinity (EPA 310.1)	mg/L	10 U	10 U	10 U	NA	NA	NA	NA
Total Hardness (EPA 314A)	mg/L	NA	NA	NA	NA	NA	NA	NA
Ammonia (EPA 350.3)	mg/L	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Total Kjeldahl Nitrogen (TKN) (EPA 351.3)	mg/L	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA
Phosphorus, Total (EPA 365.2)	mg/L	0.05 U	0.05 U	0.05 U	NA	NA	NA	NA
Biochemical Oxygen Demand (BOD) (EPA 405.1)	mg/L	NA	NA	NA	NA	NA	NA	NA
Chemical Oxygen Demand (COD) (EPA 410.4)	mg/L	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC) (EPA 415.1)	mg/L	0.5 U	0.5 U	0.5 U	NA	NA	NA	NA
Total Organic Halides (TOX) (EPA 450.1)	mg/L	NA	NA	NA	NA	NA	NA	NA
Microbiology								
Heterotrophic Plate Count (SM 9215-B)	cfu/mL	1 U	660	1 U	NA	NA	NA	NA

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/17486/D.O. 24
BATCH NO.: 97D120
METHOD: EPA 5030/M8015

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	MBLK1W				
CONTROL NO.:	VAD1814B	VAD1814L	VAD1814C		
LAB FILE ID:	BD24-3	BD24-4	BD24-5		
DATIME EXTRCTD:	04/24/9712:12	04/24/9712:41	04/24/9713:10	DATE COLLECTED:	NA
DATIME ANALYZD:	04/24/9712:12	04/24/9712:41	04/24/9713:10	DATE RECEIVED:	04/24/97
PREP. BATCH:	VAD1814	VAD1814	VAD1814		
CALIB. REF:	BD24-2	BD24-2	BD24-2		

ACCESSION:

PARAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
GASOLINE	ND	.5	.498	100	.5	.535	107	7	65-135	30

SURROGATE PARAMETER	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	QC LIMIT %
Bromofluorobenzene	.05	.0477	95	.05	.0477	95	65-135

EPA METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

LIENT:	OHM Remediation Services	DATE COLLECTED:	04/23/97
ROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/23/97
ATCH NO.:	97D120	DATE EXTRACTED:	04/25/97
ATRIX:	WATER	DATE ANALYZED:	04/25/97

AMPLE ID	CONTROL NO	RESULT (mg/L)	H-C RANGE	% RECOVERY SURR1	% RECOVERY SURR2	DL FACTOR	PRL (mg/L)
7486-249	D120-02	ND	N.A.	72	84	1	.5
7486-250	D120-03	ND	N.A.	74	89	1	.5
BLK1W	DSD0328WB	ND	N.A.	82	93	1	.5
C LIMIT:				65-135	60-140		

URR1 : Bromobenzene
URR2 : Hexacosane
RL : Project Reporting Limit
-C RANGE: C10-C15 = JP5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA M8015
AT WATER
RE: NA

ATCH NO.: 97D120
AMPLE ID: LCS1W/LCD1W
ONTROL NO.: DSD0328WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 04/25/97
DATE ANALYZED: 04/25/97

CCESSION: 97D120, 97D121, 97D131

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
iesel	ND	1.00	.88	88	1.00	.89	89	1	65-135	30

URROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT %
romobenzene	1.00	.85	85	1.00	.92	92	65-135
exacosane	1.00	.98	98	1.00	1.06	106	60-140

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 23, 1997

LDC Report Date: July 2, 1997

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D120

Sample Identification

17486-248
17486-249
17486-250
17486-249MS
17486-249MSD

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
4/21/97	Trichlorofluoromethane	35.233	All samples in SDG 97D120	J	A

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
4/24/97	Vinyl acetate 2-Chloroethylvinyl ether	26.04 44.07	All samples in SDG 97D120	J J	A

All of the continuing calibration RRF values were within validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
4/24/97	Vinyl acetate	0.03816 (≥0.05)	All samples in SDG 97D120	J (all detects) R (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 17486-248 was identified as a trip blank. No volatile contaminants were found in this blank.

Sample 17486-249 was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Compound	Concentration (ug/L)
17486-249	Acetone	41

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 97D120

SDG	Sample	Compound	Flag	A or P	Reason
97D120	17486-248 17486-249 17486-250	Trichlorofluoromethane	J	A	Initial calibration (%RSD)
97D120	17486-248 17486-249 17486-250	Vinyl acetate 2-Chloroethylvinyl ether	J J	A	Continuing calibration (%D)
97D120	17486-248 17486-249 17486-250	Vinyl acetate	J (all detects) R (all non-detects)	A	Continuing calibration (RRF)

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 97D120

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 23, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D120

Sample Identification

17486-248
17486-249
17486-250

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent recoveries (%R) of amounts in continuing standard mixtures were within the 85-115% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 17486-248 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

Sample 17486-249 was identified as an equipment blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 97D120

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 97D120

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 23, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D120

Sample Identification

17486-249
17486-250

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 17486-249 was identified as an equipment blank. No total petroleum hydrocarbons as extractable contaminants were found in this blank.

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 97D120

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 97D120

No Sample Data Qualified in this SDG

OHM Remediation Services Corp.

CHAIN-OF-CUSTODY RECORD

970139 C2/WA2

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Field Technical Servic
Rev. 08/

201934

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

1 of 1

PROJECT NAME: Quarterly Groundwater
PROJECT LOCATION: MCAS El Toro
PROJ. NO.: 17486
PROJECT CONTACT: Thizar Tintut Williams
PROJECT TELEPHONE NO.: 714 263 1146
CLIENT'S REPRESENTATIVE: Lynn Hornaker - SWDIV
PROJECT MANAGER/SUPERVISOR: Bill Sedlak - OHM

T=2 c

EMAX
Torrance, CA

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	8045-TPH-Purgeable	8015-TPH-Extractable	8260-VOC						REMARKS
1	17486-259	4/28/97	0730		X	Trip Blank	2	X		X						
2	17486-260	4/28/97	0755		X	Equipment Rinsate Pump B A (R)	3	X	X	X						5 day TAT
3	17486-261	4/28/97	1041		X	Sample Taken @ TF1MW01 Pump B A (R) Tank Farm 1	5	X	X	X						Level D
4	17486-262	4/28/97	1042		X	Sample Taken @ TF1MW01 Pump B A (R) Tank Farm 1	5	X	X	X						Level D
5																
6						(R) 4/28/97										
7																
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-4	(R) OHM	[signature]	4/28/97	1550
2		[signature]	M. Dyer	4/28/97	1720
3					
4					

REMARKS
EMAX courier pickup
14 day TAT

SAMPLER'S SIGNATURE: [signature]

1001

l Remediation Services Corp.

970139

C2/WA2

CHAIN-OF-CUSTODY RECORD

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Form 00
Field Technical Servic
201935 Rev. 08/

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

1 of 1

PROJECT NAME: Quarterly Groundwater
PROJECT LOCATION: MCAS El Toro
PROJ. NO.: 17486
PROJECT CONTACT: Thizar Tintut Williams
PROJECT TELEPHONE NO.: 714 263 1146
CLIENT'S REPRESENTATIVE: Lynn Hornecker - SW DIV
PROJECT MANAGER/SUPERVISOR: Bill Sedlak - OHM

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): 8015-TPH-Purgeable; 8020-BTEX; 8015-TPH-Extractable

T=2 cm

EMAX Torrance, CA

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	8015-TPH-Purgeable	8020-BTEX	8015-TPH-Extractable					REMARKS
5 1	17486-263	4/28/97	0800		X	Equipment Rinsate pump AB (B)	3	X	X	X					5 day TAT
6 2	17486-264	4/28/97	1328		X	Sample taken @ TF3MW-03 Pump AB Tank Farm 3 (B)	3	X	X	X					Level D
3															
4															
5															
6						(B) 4/28/97									
7															
8															
9															
10															

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-2	(B) OHM	[signature]	4-28-97	1550
2		[signature]	M. Lynn	4-28-97	1720
3					
4					

REMARKS: EMAX courier pick'd 14 day TAT

SAMPLER'S SIGNATURE: [signature]

1002

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-259	DATE ANALYZED:	04/30
CONTROL NO.:	D139-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	8.9*	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	91	76-114
Toluene -d8	105	88-110
Bromofluorobenzene	100	86-115

PRL : Project Reporting Limit
* : Suspected from lab contamination

2004

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-260	DATE ANALYZED:	04/30/97
CONTROL NO.:	D139-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULT (ug/L)	PRL (ug/L)	PARAMETERS	RESULT (ug/L)	PRL (ug/L)
Acetone	35	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	3.0J	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	98	76-114
Toluene -d8	103	88-110
Bromofluorobenzene	99	86-115

PRL : Project Reporting Limit
J : Estimated value

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-261	DATE ANALYZED:	04/30
CONTROL NO.:	D139-03	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULT (ug/L)	PRL (ug/L)	PARAMETERS	RESULT (ug/L)	PRL (ug/L)
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	15	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	24	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	97	76-114
Toluene -d8	102	88-110
Bromofluorobenzene	97	86-115

PRL : Project Reporting Limit

2006

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
LAB NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-262	DATE ANALYZED:	04/30/97
CONTROL NO.:	D139-04	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	15	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	23	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	96	76-114
Toluene -d8	102	88-110
Bromofluorobenzene	99	86-115

PRL : Project Reporting Limit

2011

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	MBLK1W	DATE ANALYZED:	04/30
CONTROL NO.:	VOD1901B	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULT (ug/L)	PRL	PARAMETERS	RESULT (ug/L)	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	97	76-114
Toluene -d8	106	88-110
Bromofluorobenzene	99	86-115

PRL : Project Reporting Limit

2016

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
HOD: EPA 8260
X: WATER
STURE: NA

BATCH NO.: 97D139
SAMPLE ID: 17306-1054
CONTROL NO.: D144-04

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

ACCESSION: 97D139 D144

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMI %
1,1-Dichloroethene	ND	50.00	47.90	96	50.00	51.20	102	7	61-145	1
Benzene	ND	50.00	51.70	103	50.00	51.70	103	0	76-127	1
Trichloroethene	ND	50.00	53.50	107	50.00	52.90	106	1	71-120	1
Toluene	ND	50.00	51.90	104	50.00	53.70	107	3	76-125	1
Chlorobenzene	ND	50.00	55.30	111	50.00	55.70	111	1	75-130	1

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT %
1,2-Dichlorethane-d4	50.00	46.70	93	50.00	48.50	97	76-114
Toluene-d8	50.00	52.70	105	50.00	52.40	105	88-110
4-Bromofluorobenzene	50.00	49.70	99	50.00	47.60	95	86-115

2019

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8260
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D139
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: VOD1901X/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
1,1-Dichloroethene	ND	20.00	18.90	94	20.00	21.00	105	11	10-234	14
Benzene	ND	20.00	19.00	95	20.00	20.90	105	10	37-151	11
Trichloroethene	ND	20.00	19.10	95	20.00	21.60	108	12	71-157	14
Toluene	ND	20.00	19.70	99	20.00	21.40	107	8	47-150	13
Chlorobenzene	ND	20.00	19.90	100	20.00	22.70	113	13	37-160	13

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT %
1,2-Dichlorethane-d4	50.00	46.40	93	50.00	48.10	96	76-114
Toluene-d8	50.00	48.40	97	50.00	50.70	102	88-110
4-Bromofluorobenzene	50.00	45.80	92	50.00	48.90	98	86-115

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

LAB CHRONICLE
EPA 5030/M8015

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/17486/D.O. 24
Batch No. : 97D139

Date Collected : 04/28/97
Date Received : 04/28/97
Instrument ID : GCT014

SAMPLE ID	CONTROL NO	MOIST	WATER Analysis DATETIME	WATER Extraction DATE	LFID	CAL REF	PREP BATCH
17486-259	D139-01	NA	04/29/97 16:14	04/29/97	BD29-11	BD29-2	VAD2114
17486-260	D139-02	NA	04/29/97 16:43	04/29/97	BD29-12	BD29-2	VAD2114
17486-260	D139-02M	NA	04/29/97 19:54	04/29/97	BD29-18	BD29-13	VAD2114
17486-260	D139-02S	NA	04/29/97 20:23	04/29/97	BD29-19	BD29-13	VAD2114
17486-261	D139-03	NA	04/29/97 17:59	04/29/97	BD29-14	BD29-13	VAD2114
17486-262	D139-04	NA	04/29/97 18:28	04/29/97	BD29-15	BD29-13	VAD2114
17486-263	D139-05	NA	04/29/97 18:56	04/29/97	BD29-16	BD29-13	VAD2114
17486-264	D139-06	NA	04/29/97 19:25	04/29/97	BD29-17	BD29-13	VAD2114
MBLK1W	VAD2114B	NA	04/29/97 12:10	04/29/97	BD29-3	BD29-2	VAD2114
LCS1W	VAD2114L	NA	04/29/97 12:39	04/29/97	BD29-4	BD29-2	VAD2114
LCD1W	VAD2114C	NA	04/29/97 13:08	04/29/97	BD29-5	BD29-2	VAD2114

EPA 5030/M8015

TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/17486/D.O. 24
Batch No. : 97D139
Matrix : WATER

Date Collected : 04/28/97
Date Received : 04/28/97
Instrument ID : GCT014

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	SURR (%)	DLF	MOIST	PQL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
17486-259	D139-01	ND	82	1	NA	.05	.036	04/29/9716:14	04/29/9716:14	BD29-11	BD29-2	VAD2114
17486-260	D139-02	ND	89	1	NA	.05	.036	04/29/9716:43	04/29/9716:43	BD29-12	BD29-2	VAD2114
17486-261	D139-03	ND	82	1	NA	.05	.036	04/29/9717:59	04/29/9717:59	BD29-14	BD29-13	VAD2114
17486-262	D139-04	ND	81	1	NA	.05	.036	04/29/9718:28	04/29/9718:28	BD29-15	BD29-13	VAD2114
17486-263	D139-05	ND	82	1	NA	.05	.036	04/29/9718:56	04/29/9718:56	BD29-16	BD29-13	VAD2114
17486-264	D139-06	ND	83	1	NA	.05	.036	04/29/9719:25	04/29/9719:25	BD29-17	BD29-13	VAD2114
MBLK1W	VAD2114B	ND	85	1	NA	.05	.036	04/29/9712:10	04/29/9712:10	BD29-3	BD29-2	VAD2114

PQL: Practical Quantative Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM REMEDIATION SERVICES
PROJECT: MCAS EL TORO/17486/D.O. 24
BATCH NO.: 97D139
METHOD: EPA 5030/M8015

MATRIX:	WATER			% MOISTURE:	NA
DILTN FACTR:	1	1	1		
SAMPLE ID:	17486-260				
CONTROL NO.:	97D139-2	97D139-2M	97D139-2S		
LAB FILE ID:	BD29-12	BD29-18	BD29-19		
DATIME EXTRCTD:	04/29/9716:43	04/29/9719:54	04/29/9720:23	DATE COLLECTED:	04/28/97
DATIME ANALYZD:	04/29/9716:43	04/29/9719:54	04/29/9720:23	DATE RECEIVED:	04/28/97
PREP. BATCH:	VAD2114	VAD2114	VAD2114		
CALIB. REF:	BD29-2	BD29-13	BD29-13		

ACCESSION:

PARAMETER	SMPL RSLT mg/L	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
GASOLINE	ND	.5	.394	79	.5	.359	72	9	65-135	30

SURROGATE PARAMETER	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	QC LIMIT %
Bromofluorobenzene	.05	.0444	89	.05	.0436	87	65-135

4026

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-263	DATE ANALYZED:	04/29/97
CONTROL NO.:	D139-05	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	85	60-140

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	17486-264	DATE ANALYZED:	04/29/97
CONTROL NO.:	D139-06	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	98	60-140

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D139	DATE EXTRACTED:	NA
SAMPLE ID:	MBLK1W	DATE ANALYZED:	04/28/97
CONTROL NO.:	VAD2313B	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	86	60-140

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

.IENT: OHM Remediation Services
:OJECT: MCAS El Toro/17486/D.O. 24
:T EPA 8020
\1 WATER
MOISTURE: NA

\TCH NO.: 97D139
\MPLE ID: LCS1W/LCD1W
)NTROL NO.: VAD2313L/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/28/97

:CESSION: 97D140 D139 D143

ARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
enzene	ND	10.00	11.20	112	10.00	10.70	107	5	39-150	30
oluene	ND	10.00	11.10	111	10.00	10.60	106	4	46-148	30
thylbenzene	ND	10.00	11.10	111	10.00	10.60	106	5	32-160	30
otal Xylenes	ND	30.00	33.00	110	30.00	31.60	105	4	61-129	30
TBE	ND	10.00	11.20	112	10.00	10.70	107	5	40-150	30

JRROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT %
-Bromo-4-fluorobenzene	20.00	20.80	104	20.00	20.20	101	60-140

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 8020
.TRIX: WATER
MOISTURE: NA

ATCH NO.: 97D139
AMPLE ID: 17486-264
ONTROL NO.: D139-06

DATE RECEIVED: 04/28/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/29/97

CCESSION: 97D140 D139 D143

ARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
enzene	ND	10.00	10.70	107	10.00	10.70	107	1	39-150	30
oluene	ND	10.00	10.60	106	10.00	10.20	102	4	46-148	30
thylbenzene	ND	10.00	10.70	107	10.00	10.20	102	4	32-160	30
otal Xylenes	ND	30.00	31.80	106	30.00	27.80	93	13	61-129	30
TBE	ND	10.00	11.70	118	10.00	11.90	119	1	40-150	30

URROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT %
-Bromo-4-fluorobenzene	20.00	18.80	94	20.00	19.00	95	60-140

4079

EPA METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

LIENT:	OHM Remediation Services	DATE COLLECTED:	04/28/97
ROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/28/97
A NO.:	97D139	DATE EXTRACTED:	04/28/97
ATRIX:	WATER	DATE ANALYZED:	04/30/97

AMPLE ID	CONTROL NO	RESULT (mg/L)	H-C RANGE	% RECOVERY SURR1	SURR2	DL FACTOR	PRL (mg/L)
7486-260	D139-02	ND	N.A.	72	81	1	.5
7486-261	D139-03	ND	N.A.	75	88	1	.5
7486-262	D139-04	ND	N.A.	82	93	1	.5
7486-263	D139-05	ND	N.A.	77	87	1	.5
7486-264	D139-06	ND	N.A.	83	92	1	.5
BLK1W	DSD044WB	ND	N.A.	82	96	1	.5

C LIMIT: 65-135 60-140

URR1 : Bromobenzene
URR2 : Hexacosane
RL : Project Reporting Limit
-C RANGE: C10-C15 = JP5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

:ENT: OHM Remediation Services
)JECT: MCAS El Toro/17486/D.O. 24
THOD: EPA M8015
TRIX: WATER
MOISTURE: NA

TCH NO.: 97D139
MPLE ID: LCS1W/LCD1W
NTROL NO.: DSD044WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 04/28/97
DATE ANALYZED: 04/30/97

CESSION: 97D139 97D144 97D149

RAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
esel	ND	1.00	.75	75	1.00	.77	77	3	65-135	30

RROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT %
omobenzene	1.00	.81	81	1.00	.79	79	65-135
xacosane	1.00	.91	91	1.00	.92	92	60-140

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
T: EPA M8015
1: WATER
MO[illegible]RE: NA

.TCH NO.: 97D139
MPLE ID: 17306-1053
NTROL NO.: D144-03

DATE RECEIVED: NA
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 04/30/97

CESSION: 97D144 97D139 97D149

RAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
esel	2.70	1.00	3.42	72	1.00	3.40	70	3	65-135	30

RROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT %
romobenzene	1.00	.53	53*	1.00	.56	56*	65-135
exacosane	1.00	.63	63	1.00	.62	62	60-140

Out of QC limits

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 28, 1997

LDC Report Date: July 2, 1997

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D139

Sample Identification

17486-259
17486-260
17486-261**
17486-262**

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
4/21/97	Trichlorofluoromethane	35.233	All samples in SDG 97D139	J	A

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
4/30/97	Trichlorofluoromethane Vinyl acetate 2-Chloroethylvinyl ether	32.36 156.49 44.48	All samples in SDG 97D139	J J J	A

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC

Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 17486-261** and 17486-262** were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD
	17486-261**	17486-262**	
Carbon tetrachloride	15	15	0
Trichloroethene	24	23	4

XVII. Field Blanks

Sample 17486-259 was identified as trip blank. No volatile contaminants were found in this blank with the following exceptions:

Trip Blank ID	Compound	Concentration (ug/L)
17486-259	Methylene chloride	8.9

Sample 17486-260 was identified as an equipment rinsate. No volatile contaminants were found in this blank with the following exceptions:

Equipment Rinsate ID	Compound	Concentration (ug/L)
17486-260	Acetone Chloroform	35 3.0

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 97D139

SDG	Sample	Compound	Flag	A or P	Reason
97D139	17486-259 17486-260 17486-261** 17486-262**	Trichlorofluoromethane	J	A	Initial calibration (%RSD)
97D139	17486-259 17486-260 17486-261** 17486-262**	Trichlorofluoromethane Vinyl acetate 2-Chloroethylvinyl ether	J J J	A	Continuing calibration (%D)

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 28, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D139

Sample Identification

17486-259
17486-260
17486-261**
17486-262**
17486-263
17486-264**
17486-260MS
17486-260MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent recoveries (%R) of amounts in continuing standard mixtures were within the 85-115% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples

reviewed by Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples 17486-261** and 17486-262** were identified as field duplicates. No total petroleum hydrocarbons as gasoline were detected in any of the samples.

X. Field Blanks

Sample 17486-259 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

Samples 17486-260 and 17486-263 were identified as a equipment rinsates. No total petroleum hydrocarbons as gasoline contaminants were found in these blanks.

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 28, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D139

Sample Identification

17486-260
17486-261**
17486-262**
17486-263
17486-264**

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples

reviewed by Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

Samples 17486-261** and 17486-262** were identified as field duplicates. No total petroleum hydrocarbons as extractables were detected in any of the samples.

X. Field Blanks

Samples 17486-260 and 17486-263 were identified as equipment rinsates. No total petroleum hydrocarbons as extractable contaminants were found in these blanks.

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 28, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Aromatic Volatile Organics

Validation Level: NFESC Level C & D

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D139

Sample Identification

17486-263
17486-264**
17486-264MS
17486-264MSD

**Indicates sample underwent NFESC Level D review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8020 for Aromatic Volatile Organics which include Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and Methyl-tert-butyl Ether.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0% .

Retention time windows were established according to the method and were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No aromatic volatile organic contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 17486-263 was identified as an equipment rinsate. No aromatic volatile organic contaminants were found in this blank.

MCAS El Toro
Aromatic Volatile Organics - Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

MCAS El Toro
Aromatic Volatile Organics - Laboratory Blank Data Qualification Summary - SDG 97D139

No Sample Data Qualified in this SDG

OHM Remediation Services Corp.

970149

CHAIN-OF-CUSTODY RECORD

N2/WA3

TRANSFER 3
Form 0019
Field Technical Services
Rev. 08/89

201831

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

1 of 1

PROJECT NAME: Quarterly Groundwater
PROJECT LOCATION: MCAS El Toro
PROJ. NO.: 17486
PROJECT CONTACT: Thizar Tintut Williams
PROJECT TELEPHONE NO.: 714 263 1146
CLIENT'S REPRESENTATIVE: Lynn Honecker - SW DIV
PROJECT MANAGER/SUPERVISOR: Bill Sedlak - OHM

EMAX
Torrance, CA
T=2°C

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	8015-TPH-Purgeable	8015-TPH-Extractable	8020-BTEX						REMARKS
1	17486-265	4/29/97	0730		X	Trip Blank	1	X		X						
2	17486-266	4/29/97	0738		X	Equip. Rinsate - Pump A	3	X	X	X						5 day TAT
3	17486-267	4/29/97	1054		X	Groundwater (c) TF3MW-01 Pump A Tank Farm 3	3	X	X	X						T=1°C
4	17486-268	4/29/97	0815		X	Equip. Rinsate - Pump C	3	X	X	X						5 day TAT
5	17486-269	4/29/97	1222		X	Groundwater (c) TF3MW-02 Pump C Tank Farm 3	3	X	X	X						
6																
7						(B) 4/29/97										
8																
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5	(B) OHM	[illegible]	4/29/97	~~[illegible]~~ 1525
2	1-5	[illegible]	M Lyon	4/29/97	1815
3					
4					

REMARKS: EMAX courier pick-up
14 day TAT

SAMPLER'S SIGNATURE: [illegible]

Ohm Remediation Services Corp.

97 D149

CHAIN-OF-CUSTODY RECORD

N2/WA3

TRANSFER 3
Form 0019
Field Technical Services
Rev. 08/89

201892

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

1 of 1

PROJECT NAME: Quarterly Groundwater
PROJECT LOCATION: MCAS El Toro
PROJ. NO.: 17486
PROJECT CONTACT: Thizar Tintut Williams
PROJECT TELEPHONE NO.: 714 263 1146
CLIENT'S REPRESENTATIVE: Lynn Horncker SWDIV
PROJECT MANAGER/SUPERVISOR: Bill Sedlak - OHM

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS): 8015-TPH-Extractable; 8015-TPH-Purgeable; 8020-BTEX; 8260-VOC; 310.1-Alk; 6010-Cations-Field Filtered; 160.1-TDS; Anions*

EMAX Torrance, CA T=2°C

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	8015-TPH-Extractable	8015-TPH-Purgeable	8020-BTEX	8260-VOC	310.1-Alk	6010-Cations-Field Filtered	160.1-TDS	Anions*	REMARKS
1	17486-270	4/29/97	0735		X	Trip Blank	2		X	X	X					
2	17486-271	4/29/97	0750		X	Equip. Rinsate - Pump B	5	X	X	X	X					5 day TAT
3	17486-272	4/29/97	1345		X	Groundwater @ 04-UGMW63 ~~Pump B~~ (R) Tank Form 6	9	X	X	X	X	X	X	X	X	Cerkla pump in well.
4	17486-273	4/29/97	0830		X	Equip. Rinsate - Pump D	5	X	X	X	X					5 day TAT
5	17486-274	4/29/97	1447		X	Groundwater @ 18-~~B~~GMW01E Pump D Tank Form 6	9	X	X	X	X	X	X	X	X	
6						[signature] 8/26/97										
7																
8						(R) 4/29/97										
9																
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-5	(R)/OHM	[signature]	4/29/97	1525
2	1-5	[signature]	M. Lyn	4/29/97	1815
3					
4					

REMARKS
EMAX courier pickup
14 day TAT
cations = (Fe, Mn, Ca, Mg, K, Na)
* Anions = Fluoride/Nitrate/Nitrite/Sulfate/Chloride

SAMPLER'S SIGNATURE: [signature]

1003

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-270	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-06	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	102	76-114
Toluene -d8	108	88-110
Bromofluorobenzene	101	86-115

PRL : Project Reporting Limit

2003

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-271	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-07	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	96	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	5.4	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	102	76-114
Toluene -d8	105	88-110
Bromofluorobenzene	102	86-115

PRL : Project Reporting Limit

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-272	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-08	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULT (ug/L)	PRL (ug/L)	PARAMETERS	RESULT (ug/L)	PRL (ug/L)
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	4.3J	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	105	76-114
Toluene -d8	105	88-110
Bromofluorobenzene	101	86-115

PRL : Project Reporting Limit
J : Estimated value

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-273	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-09	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	13	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	170	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	3.7J	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	100	76-114
Toluene -d8	104	88-110
Bromofluorobenzene	101	86-115

PRL : Project Reporting Limit
J : Estimated value

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-274	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-10	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	32	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	3.5J	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	100	76-114
Toluene -d8	108	88-110
Bromofluorobenzene	101	86-115

PRL : Project Reporting Limit
J : Estimated value

EPA 8260
VOLATILE ORGANICS BY GC/MS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	MBLK1W	DATE ANALYZED:	05/01/97
CONTROL NO.:	VOE0101B	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	(ug/L) RESULT	PRL	PARAMETERS	(ug/L) RESULT	PRL
Acetone	ND	10	cis-1,3-Dichloropropene	ND	5
Benzene	ND	5	trans-1,3-Dichloropropene	ND	5
Bromodichloromethane	ND	5	Ethylbenzene	ND	5
Bromoform	ND	5	Freon 113	ND	5
Bromomethane	ND	10	2-Hexanone (MBK)	ND	10
2-Butanone (MEK)	ND	10	Methylene chloride	ND	5
Carbon Disulfide	ND	5	4-Metyl-2-Pentanone (MIBK)	ND	10
Carbon Tetrachloride	ND	5	Metyl-t-butyl-ether (MTBE)	ND	5
Chlorobenzene	ND	5	Styrene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
2-Chloroethylvinylether	ND	10	Tetrachloroethene	ND	5
Chloroform	ND	5	Toluene	ND	5
Chloromethane	ND	10	1,1,1-Trichloroethane	ND	5
Dibromochloromethane	ND	5	1,1,2-Thrichloroethane	ND	5
1,1-Dichloroethane	ND	5	Trichloroethene	ND	5
1,2-Dichloroethane	ND	5	Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5	Vinyl Acetate	ND	10
cis-1,2-Dichloroethene	ND	5	Vinyl Chloride	ND	10
trans-1,2-Dichloroethene	ND	5	Xylenes (Total)	ND	5
1,2-Dichloropropane	ND	5			

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1,2 Dichloroethane-d4	103	76-114
Toluene -d8	108	88-110
Bromofluorobenzene	101	86-115

PRL : Project Reporting Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

C[illegible]T: OHM Remediation Services
P[illegible]T: MCAS El Toro/17486/D.O. 24
ME[illegible]: EPA 8260
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: 17486-272
CONTROL NO.: D149-08

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
1,1-Dichloroethene	ND	50.00	58.40	117	50.00	56.30	112	4	61-145	14
Benzene	ND	50.00	61.60	123	50.00	61.30	123	0	76-127	11
Trichloroethene	ND	50.00	55.70	111	50.00	54.80	110	2	71-120	14
Toluene	ND	50.00	57.50	115	50.00	57.70	115	0	76-125	13
Chlorobenzene	ND	50.00	60.40	121	50.00	58.80	118	3	75-130	13

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT %
1,2-Dichlorethane-d4	50.00	54.60	109	50.00	51.50	103	76-114
Toluene-d8	50.00	53.50	107	50.00	53.20	106	88-110
4-Bromofluorobenzene	50.00	51.40	103	50.00	51.80	104	86-115

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8260
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: VOE0101L/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
1,1-Dichloroethene	ND	20.00	17.60	88	20.00	19.20	96	8	10-234	14
Benzene	ND	20.00	18.40	92	20.00	19.20	96	4	37-151	11
Trichloroethene	ND	20.00	17.80	89	20.00	18.50	92	4	71-157	14
Toluene	ND	20.00	18.50	92	20.00	19.60	98	6	47-150	13
Chlorobenzene	ND	20.00	19.40	97	20.00	20.00	100	3	37-160	13

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT %
1,2-Dichlorethane-d4	50.00	47.10	94	50.00	50.00	100	76-114
Toluene-d8	50.00	48.80	98	50.00	51.00	102	88-110
4-Bromofluorobenzene	50.00	47.00	94	50.00	49.40	99	86-115

EPA 5030/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/17486/D.O. 24
Batch No. : 97D149
Matrix : WATER

Date Collected : 04/29/97
DaTime Received: 04/29/97
Instrument ID : GCT014

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	SURR (%)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
17486-265	D149-01	ND	87	1	NA	.05	.036	04/30/9716:08	04/30/9716:08	BD30-12	BD30-2	VAD2214
17486-266	D149-02	.0706	84	1	NA	.05	.036	04/30/9717:06	04/30/9717:06	BD30-14	BD30-13	VAD2214
17486-267	D149-03	ND	86	1	NA	.05	.036	04/30/9717:36	04/30/9717:36	BD30-15	BD30-13	VAD2214
17486-268	D149-04	.0934	83	1	NA	.05	.036	04/30/9718:05	04/30/9718:05	BD30-16	BD30-13	VAD2214
17486-269	D149-05	ND	85	1	NA	.05	.036	04/30/9718:34	04/30/9718:34	BD30-17	BD30-13	VAD2214
17486-270	D149-06	ND	86	1	NA	.05	.036	04/30/9719:03	04/30/9719:03	BD30-18	BD30-13	VAD2214
17486-271	D149-07	ND	84	1	NA	.05	.036	04/30/9719:32	04/30/9719:32	BD30-19	BD30-13	VAD2214
17486-272	D149-08	.0689	90	1	NA	.05	.036	04/30/9720:01	04/30/9720:01	BD30-20	BD30-13	VAD2214
17486-273	D149-09	ND	87	1	NA	.05	.036	04/30/9720:30	04/30/9720:30	BD30-21	BD30-13	VAD2214
17486-274	D149-10	1.56	93	1	NA	.05	.036	04/30/9720:59	04/30/9720:59	BD30-22	BD30-13	VAD2214
MBLK1W	VAD2214B	ND	77	1	NA	.05	.036	04/30/9711:36	04/30/9711:36	BD30-3	BD30-2	VAD2214

PRL: Project Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM REMEDIATION SERVICES
OJECT: MCAS EL TORO/17486/D.O. 24
TCH NO.: 97D149
THOD: EPA 5030/M8015

TRIX:	WATER			% MOISTURE:	NA
LTN FACTR:	1	1	1		
MPLE ID:	MBLK1W				
NTROL NO.:	VAD2214B	VAD2214L	VAD2214C		
B FILE ID:	BD30-3	BD30-4	BD30-5		
TIME EXTRCTD:	04/30/9711:36	04/30/9712:05	04/30/9712:34	DATE COLLECTED:	NA
TIME ANALYZD:	04/30/9711:36	04/30/9712:05	04/30/9712:34	DATE RECEIVED:	04/30/97
EP. BATCH:	VAD2214	VAD2214	VAD2214		
LIB. REF:	BD30-2	BD30-2	BD30-2		

CESSION:

RAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
SOLINE	ND	.5	.468	94	.5	.43	86	9	70-125	30

URROGATE PARAMETER	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	QC LIMIT %
omofluorobenzene	.05	.0462	92	.05	.0453	91	65-135

4004

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

IENT: OHM REMEDIATION SERVICES
OJECT: MCAS EL TORO/17486/D.O. 24
TCH NO.: 97D149
THOD: EPA 5030/M8015

TRIX:	WATER			% MOISTURE:	NA
LTN FACTR:	1	1	1		
MPLE ID:	17486-266				
ONTROL NO.:	D149-02	D149-2M	D149-2S		
AB FILE ID:	BD30-14	BD30-23	BD30-25		
ATIME EXTRCTD:	04/30/9717:06	04/30/9721:28	04/30/9722:26	DATE COLLECTED:	04/29/97
ATIME ANALYZD:	04/30/9717:06	04/30/9721:28	04/30/9722:26	DATE RECEIVED:	04/29/97
REP. BATCH:	VAD2214	VAD2214	VAD2214		
ALIB. REF:	BD30-13	BD30-13	BD30-24		

CCESSION:

ARAMETER	SMPL RSLT mg/L	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
ASOLINE	.0706	.5	.508	87	.5	.454	77	13	65-135	30

URROGATE PARAMETER	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	QC LIMIT %
romofluorobenzene	.05	.0453	91	.05	.045	90	65-135

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-265	DATE ANALYZED:	04/30/97
CONTROL NO.:	D149-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	87	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-266	DATE ANALYZED:	04/30/97
CONTROL NO.:	D149-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	109	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-267	DATE ANALYZED:	04/30/97
CONTROL NO.:	D149-03	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	98	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-268	DATE ANALYZED:	04/30/97
CONTROL NO.:	D149-04	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	100	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	17486-269	DATE ANALYZED:	04/30/97
CONTROL NO.:	D149-05	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	88	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D149	DATE EXTRACTED:	NA
SAMPLE ID:	MBLK1W	DATE ANALYZED:	04/30/97
CONTROL NO.:	VAD2513B	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	95	60-140

PRL: Project Reporting Limit

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8020
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: 17486-269
CONTROL NO.: D149-05

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

ACCESSION: 97D149 D146 D142

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Benzene	ND	10.00	10.20	102	10.00	10.40	104	1	39-150	30
Toluene	ND	10.00	10.20	102	10.00	10.30	103	1	46-148	30
Ethylbenzene	ND	10.00	10.20	102	10.00	10.40	104	2	32-160	30
Total Xylenes	ND	30.00	30.30	101	30.00	30.60	102	1	61-129	30
MTBE	ND	10.00	11.10	111	10.00	10.90	109	2	40-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT %
1-Bromo-4-fluorobenzene	20.00	20.50	103	20.00	20.50	103	60-140

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8020
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: VAD2513L/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

ACCESSION: 97D146 D149 D142

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Benzene	ND	10.00	10.60	106	10.00	11.10	111	5	39-150	30
Toluene	ND	10.00	10.60	106	10.00	11.10	111	5	46-148	30
Ethylbenzene	ND	10.00	10.60	106	10.00	11.20	112	5	32-160	30
Total Xylenes	ND	30.00	31.80	106	30.00	33.50	112	5	61-129	30
MTBE	ND	10.00	11.90	119	10.00	12.50	125	5	40-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT %
1-Bromo-4-fluorobenzene	20.00	21.50	108	20.00	20.10	101	60-140

EPA METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29
BATCH NO.:	97D149	DATE EXTRACTED:	04/3
MATRIX:	WATER	DATE ANALYZED:	04/30/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	H-C RANGE	% RECOVERY SURR1	% RECOVERY SURR2	DL FACTOR	PRL (mg/L)
17486-266	D149-02	ND	N.A.	82	93	1	.5
17486-267	D149-03	ND	N.A.	78	88	1	.5
17486-268	D149-04	ND	N.A.	85	97	1	.5
17486-269	D149-05	ND	N.A.	77	87	1	.5
17486-271	D149-07	ND	N.A.	74	83	1	.5
17486-272	D149-08	ND	N.A.	70	79	1	.5
17486-273	D149-09	ND	N.A.	69	77	1	.5
17486-274	D149-10	ND	N.A.	73	82	1	.5
MBLK1W	DSD044WB	ND	N.A.	82	96	1	.5

QC LIMIT: 65-135 60-140

SURR1 : Bromobenzene
SURR2 : Hexacosane
PRL : Project Reporting Limit
H-C RANGE: C10-C15 = JP5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil
DATE ANALYZED: 05/01/97, for D149-07 to 10

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA M8015
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: 17306-1053
CONTROL NO.: D144-03

DATE RECEIVED: NA
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 04/30/97

ACCESSION: 97D144 97D139 97D149

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Diesel	2.70	1.00	3.50	80	1.00	3.40	70	13	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	SPIKE AMT (mg/L)	MSD RSLT (mg/L)	MSD % REC	QC LIMIT %
Bromobenzene	1.00	.53	53*	1.00	.56	56*	65-135
Hexacosane	1.00	.63	63	1.00	.62	62	60-140

* Out of QC limits

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA M8015
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D149
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: DSD044WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 04/28/97
DATE ANALYZED: 04/30/97

ACCESSION: 97D139 97D144 97D149

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Diesel	ND	1.00	.75	75	1.00	.77	77	3	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT %
Bromobenzene	1.00	.81	81	1.00	.79	79	65-135
Hexacosane	1.00	.91	91	1.00	.92	92	60-140

EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	04/30/97
SAMPLE ID:	17486-272	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-08	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	128000
Iron	50	ND
Magnesium	500	60400
Manganese	10	489
Potassium	1000	2350
Sodium	1000	76400

PRL: Project Reporting Limit

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EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	04/30/97
SAMPLE ID:	17486-274	DATE ANALYZED:	05/01/97
CONTROL NO.:	D149-10	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	88800
Iron	50	ND
Magnesium	500	57200
Manganese	10	91.7
Potassium	1000	3270
Sodium	1000	116000

PRL: Project Reporting Limit

EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D149	DATE EXTRACTED:	04/30/97
SAMPLE ID:	MBLK1W	DATE ANALYZED:	05/01/97
CONTROL NO.:	IPD030WB	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	ND
Iron	50	ND
Magnesium	500	ND
Manganese	10	ND
Potassium	1000	ND
Sodium	1000	ND

PRL: Project Reporting Limit

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 3005/6010
MATRIX: WATER

==========

BATCH NO.: 97D149
SAMPLE ID: 17486-274
CONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 05/01/97

ACCESSION: 97D149

PARAMETER	SAMPLE RESULT (ug/L)	SERIAL DILUTION RESULT (ug/L)	DIFFERENCE RESULT (%)
Calcium	88800	125000	41H
Iron	ND	ND	0
Magnesium	57200	60200	5
Manganese	91.7	496	441H
Potassium	3270	ND	NA
Sodium	116000	82900	29H

QC LIMIT: 10

H : Out of QC limit, matrix effect was suspected.

EMAX QUALITY CONTROL DATA
SPIKE ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 3005/6010
MATRIX: WATER

==========

BATCH NO.: 97D149
SAMPLE ID: 17486-274
CONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 05/01/97

ACCESSION: 97D149

PARAMETER	SAMPLE RESULT (ug/L)	SPIKE CONC. (ug/L)	SPIKE RESULT (ug/L)	SPIKE RECRY. (%)
Calcium	88800	50000	141000	104
Iron	ND	10000	9086	91
Magnesium	57200	50000	104000	93
Manganese	91.7	1000	1025	93
Potassium	3266	50000	48200	90
Sodium	116000	50000	163000	93
QC LIMIT:				75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 3005/6010
MATRIX: WATER

==========

BATCH NO.: 97D149
SAMPLE ID: 17486-274
CONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 05/01/97

ACCESSION: 97D149

PARAMETER	SAMPLE RESULT (ug/L)	DUP SAMPLE RESULT (ug/L)	RPD RESULT (%)
Calcium	88800	89000	0
Iron	ND	ND	0
Magnesium	57200	57000	0
Manganese	91.7	91.7	0
Potassium	3266	3538	8
Sodium	116000	118000	1
QC LIMIT:			20

EMAX QUALITY CONTROL DATA
LABORATORY CONTROL SAMPLE ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 3005/6010
MATRIX: WATER

BATCH NO.: 97D149
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: IPD030WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 04/30/97
DATE ANALYZED: 05/01/97

ACCESSION: 97D149

PARAMETER	SAMPLE CONC (ug/L)	SPIKE ADDED (ug/L)	LCS CONC (ug/L)	LCS % REC	SPIKE ADDED (ug/L)	LCSD CONC (ug/L)	LCSD % REC	% RPD
Calcium	ND	50000	46380	93	50000	46364	93	0
Iron	ND	10000	9067	91	10000	9008	90	1
Magnesium	ND	50000	44914	90	50000	44720	89	0
Manganese	ND	1000	922	92	1000	916	92	1
Potassium	ND	50000	45353	91	50000	43949	88	3
Sodium	ND	50000	46594	93	50000	45169	90	3
QC LIMIT:				75-125			75-125	20

EPA METHOD 160.1
TOTAL DISSOLVED SOLIDS

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	05/02/97
MATRIX:	WATER	DATE ANALYZED:	05/02/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PRL (mg/L)
17486-272	D149-08	905	1	10
17486-274	D149-10	760	1	10
MBLK1W	DSE001WB	ND	1	10

PRL : Project Reporting Limit

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EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 160.1
ATRIX: WATER
STURE: NA

ATCH NO.: 97D149
AMPLE ID: 17486-296
ONTROL NO.: E007-02

DATE RECEIVED: NA
DATE EXTRACTED: 05/02/97
DATE ANALYZED: 05/02/97

CCESSION: 97E007 97D149

ARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
DS	715.00	715.00	0	20

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EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 160.1
ATRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: LCS1W/LCD1W
ONTROL NO.: DSE001WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 05/02/97
DATE ANALYZED: 05/02/97

CCESSION: 97E007 97D149

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
DS	ND	1120.00	1160.00	103	1120.00	1130.00	101	2	85-115	20

8004

EPA METHOD 300.0
NITRATE/NITRITE-N

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	04/30/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PRL (mg/L)
17486-272	D149-08	7.93	5	.5
17486-274	D149-10	9.81	5	.5
MBLK1W	ICD026WB	ND	1	.1

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 300.0
ATRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: 17486-274
ONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CCESSION: 97D149

ARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
itrate/Nitrite-N	9.81	9.46	4	20

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EMAX QUALITY CONTROL DATA
MS ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 300.0
TRIX: WATER
TURE: NA

ATCH NO.: 97D149
AMPLE ID: 17486-274
ONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CCESSION: 97D149

ARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
itrate/Nitrite-N	9.81	10.00	19.20	94	75-125

8008

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 300.0
TRIX: WATER
MOISTURE: NA

TCH NO.: 97D149
MPLE ID: LCS1W
NTROL NO.: ICD026WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CESSION: 97D149

RAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
trate/Nitrite-N	ND	1.00	1.05	105	85-115

REVISED REPORT
7/15/97

8009

EPA METHOD 300
FLUORIDE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	04/30/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	RL (mg/L)
17486-272	D149-08	ND	5	.5
17486-274	D149-10	ND	5	.5
MBLK1W	ICD026WB	ND	1	.1

RL : Reporting Limit

EMAX QUALITY CONTROL DATA
MS ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 300
ATRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: 17486-274
ONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CCESSION: 97D149

ARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
luoride	ND	10.00	8.29	83	75-125

8011

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 300
TRIX: WATER
TURE: NA

ATCH NO.: 97D149
AMPLE ID: 17486-274
ONTROL NO.: D149-10

DATE RECEIVED: 04/29/97
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CCESSION: 97D149

ARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
luoride	ND	ND	0	20

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EMAX QUALITY CONTROL DATA
LCS ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 300
ATRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: LCS1W
ONTROL NO.: ICD026WL

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 04/30/97

CCESSION: 97D149

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	LCS RSLT (mg/L)	LCS % REC	QC LIMIT (%)
luoride	ND	1.00	1.12	112	85-115

8013

EPA METHOD 375.4
SULFATE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	05/07/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PRL (mg/L)
17486-272	D149-08	90	50	50
17486-274	D149-10	81	50	50
MBLK1W	SUE002WB	ND	1	1

PRL : Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
MS ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 375.4
TRIX: WATER
MOISTURE: NA

TCH NO.: 97D149
MPLE ID: 17486-278
NTROL NO.: D155-04

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/07/97

CESSION: 97D149

ARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
lfate	160.00	1000.00	1120.00	96	75-125

8019

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 375.4
TRIX: WATER
M TURE: NA

TCH NO.: 97D149
MPLE ID: 17486-278
NTROL NO.: D155-04

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/07/97

CESSION: 97D149

RAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
lfate	160.00	164.00	2	20

8020

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 375.4
TRIX: WATER
MOISTURE: NA

A

ATCH NO.: 97D149
AMPLE ID: LCS1W/LCD1W
ONTROL NO.: SUE002WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/07/97

CCESSION: 97D149

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
ulfate	ND	20.00	20.00	100	20.00	20.00	100	0	85-115	20

8021

EPA METHOD 310.1
CARBONATE ALKALINITY

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	05/01/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PRL (mg/L)
17486-272	D149-08	ND	1	10
17486-274	D149-10	ND	1	10
MBLK1W	ALE001WB	ND	1	10

PRL : Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 310.1
BICARBONATE ALKALINITY

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	05/01/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	PRL (mg/L)
17486-272	D149-08	340	1	10
17486-274	D149-10	460	1	10
MBLK1W	ALE001WB	ND	1	10

PRL : Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
MS ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 310.1
A TIX: WATER
STURE: NA

ATCH NO.: 97D149
AMPLE ID: 18473-54
ONTROL NO.: D131-04

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

CCESSION: 97D149 D131

ARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
otal Alkalinity	590.00	218.00	795.00	94	75-125

8027

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 310.1
TRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: 18473-54
ONTROL NO.: D131-04

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

CCESSION: 97D149 D131

ARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
otal Alkalinity	590.00	540.00	9	20

8028

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

.IENT: OHM Remediation Services
:OJECT: MCAS El Toro/17486/D.O. 24
:THOD: EPA 310.1
\TRIX: WATER
/ :E: NA

\TCH NO.: 97D149
\MPLE ID: LCS1W/LCD1W
)NTROL NO.: ALE001WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

:CESSION:

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
otal Alkalinity	ND	2400.00	2390.00	99	2400.00	2390.00	100	0	85-115	20

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 9250
CHLORIDE BY COLORIMETRIC

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/29/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/29/97
BATCH NO.:	97D149	DATE EXTRACTED:	NA
MATRIX:	WATER	DATE ANALYZED:	05/02/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	DILUTION FACTOR	RL (mg/L)
17486-272	D149-08	157	100	20
17486-274	D149-10	228	100	20
MBLK1W	CHE001WB	ND	1	.2

RL : Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
MS ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 9250
ATRIX: WATER
TURE: NA

ATCH NO.: 97D149
AMPLE ID: WELL MW-4
ONTROL NO.: D147-05

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/02/97

CCESSION: 97D149

ARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
hloride	152.00	200.00	356.00	102	75-125

8033

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 9250
ATRIX: WATER
MOISTURE: NA

ATCH NO.: 97D149
AMPLE ID: WELL MW-4
ONTROL NO.: D147-05

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/02/97

CCESSION: 97D149

ARAMETER	SAMPLE (mg/L)	DUP. SAMPLE (mg/L)	RPD (%)	RPD LIMIT (%)
hloride	152.00	128.00	17	20

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
THOD: EPA 9250
WATER
RE: NA

ATCH NO.: 97D149
AMPLE ID: LCS1W/LCD1W
ONTROL NO.: CHE001WL/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/02/97

CCESSION: 97D149

ARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
hloride	ND	5.00	5.42	108	5.00	5.23	105	4	85-115	20

8035

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 28, 1997

LDC Report Date: July 2, 1997

Matrix: Water

Parameters: Volatiles

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-270
17486-271
17486-272
17486-273
17486-274
17486-272MS
17486-272MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260 for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all compounds with the following exceptions:

Date	Compound	%RSD	Associated Samples	Flag	A or P
4/21/97	Trichlorofluoromethane	35.233	All samples in SDG 97D149	J	A

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/1/97	Trichlorofluoromethane Vinyl acetate 2-Chloroethylvinyl ether	29.55 146.47 51.09	All samples in SDG 97D149	J J J	A

All of the continuing calibration RRF values were within validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
5/1/97	2-Chloroethylvinyl ether	0.04477 (≥0.05)	All samples in SDG 97D149	J (all detects) R (all non-detects)	A

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 17486-270 was identified as a trip blank. No volatile contaminants were found in this blank.

Samples 17486-271 and 17486-273 were identified as equipment rinsates. No volatile contaminants were found in these blanks with the following exceptions:

Equipment Rinsate ID	Compound	Concentration (ug/L)
17486-271	2-Butanone Chloroform	96 5.4
17486-273	2-Butanone Chloroform	170 3.7

MCAS El Toro
Volatiles - Data Qualification Summary - SDG 97D149

SDG	Sample	Compound	Flag	A or P	Reason
97D149	17486-270 17486-271 17486-272 17486-273 17486-274	Trichlorofluoromethane	J	A	Initial calibration (%RSD)
97D149	17486-270 17486-271 17486-272 17486-273 17486-274	Trichlorofluoromethane Vinyl acetate 2-Chloroethylvinyl ether	J J J	A	Continuing calibration (%D)
97D149	17486-270 17486-271 17486-272 17486-273 17486-274	2-Chloroethylvinyl ether	J (all detects) R (all non-detects)	A	Continuing calibration (RRF)

MCAS El Toro
Volatiles - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 29, 1997

LDC Report Date: July 8, 1997

Matrix: Water

Parameters: Metals

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-272
17486-274
17486-274MS
17486-274DUP

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010 for Metals. The metals analyzed were Calcium, Iron, Magnesium, Manganese, Potassium, and Sodium.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits of 75-125% .

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards (ICP-MS)

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
17486-274L	Calcium Sodium	41 (≤10) 29 (≤10)	All samples in SDG 97D149	J (all detects) J (all detects)	A

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

IX. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro
Metals - Data Qualification Summary - SDG 97D149

SDG	Sample	Analyte	Flag	A or P	Reason
97D149	17486-272 17486-274	Calcium Sodium	J (all detects) J (all detects)	A	ICP serial dilution (%D)

MCAS El Toro
Metals - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 29, 1997

LDC Report Date: July 8, 1997

Matrix: Water

Parameters: Wet Chemistry

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-272
17486-274
17486-274MS
17486-274DUP

Introduction

This data review covers 4 water samples listed on the cover sheet. The analyses were per EPA Method 160.1 for Total Dissolved Solids, EPA Method 300.0 for Fluoride and Nitrate and Nitrite as Nitrogen, EPA Method 310.1 for Alkalinity, EPA Method 375.4 for Sulfate, and EPA SW 846 Method 9250 for Chloride.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro
Wet Chemistry - Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

MCAS El Toro
Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 29, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Gasoline

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-265
17486-266
17486-267
17486-268
17486-269
17486-270
17486-271
17486-272
17486-273
17486-274
17486-266MS
17486-266MSD

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent recoveries (%R) of amounts in continuing standard mixtures were within the 85-115% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Samples 17486-265 and 17486-270 were identified as trip blanks. No total petroleum hydrocarbons as gasoline contaminants were found in these blanks.

Samples 17486-266, 17486-268, 17486-271, and 17486-273 were identified as equipment rinsates. No total petroleum hydrocarbons as gasoline contaminants were found in these blanks with the following exceptions:

Equipment Rinsate ID	Compound	Concentration (mg/L)
17486-266	TPH as gasoline	0.0706
17486-268	TPH as gasoline	0.0934

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 29, 1997

LDC Report Date: July 2, 1997

Matrix: Water

Parameters: Total Petroleum Hydrocarbons as Extractables

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-266
17486-267
17486-268
17486-269
17486-271
17486-272
17486-273
17486-274

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Samples 17486-266, 17486-268, 17486-271, and 17486-273 were identified as equipment rinsates. No total petroleum hydrocarbons as extractable contaminants were found in these blanks.

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

MCAS El Toro
Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro

Collection Date: April 29, 1997

LDC Report Date: July 3, 1997

Matrix: Water

Parameters: Aromatic Volatile Organics

Validation Level: NFESC Level C

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 97D149

Sample Identification

17486-265
17486-266
17486-267
17486-268
17486-269
17486-269MS
17486-269MSD

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8020 for Aromatic Volatile Organics which include Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and Methyl-tert-butyl Ether.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.

J Indicates an estimated value.

R Quality control indicates the data is not usable.

N Presumptive evidence of presence of the constituent.

UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

A Indicates the finding is based upon technical validation criteria.

P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for all compounds were less than or equal to 20.0% .

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No aromatic volatile organic contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 17486-265 was identified as a trip blank. No aromatic volatile organic contaminants were found in this blank.

Samples 17486-266 and 17486-268 were identified as equipment rinsates. No aromatic volatile organic contaminants were found in these blanks.

MCAS El Toro
Aromatic Volatile Organics - Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

MCAS El Toro
Aromatic Volatile Organics - Laboratory Blank Data Qualification Summary - SDG 97D149

No Sample Data Qualified in this SDG

OHM Remediation Services Corp.

CHAIN-OF-(STODY RECORD

TRANSI Form ield Technical Ser Rev. (

201893

97D155 A4/WA1

O.H. MATERIALS CORP. • P.O. BOX 551 • FINDLAY, OH 45839-0551 • 419-423-3526

1 of 1

PROJECT NAME	PROJECT LOCATION
Quarterly Groundwater	MCAS El Toro

PROJ. NO.	PROJECT CONTACT	PROJECT TELEPHONE NO.
17486	Thizar Tintut Williams	714 263 1146

CLIENT'S REPRESENTATIVE	PROJECT MANAGER/SUPERVISOR
Lynn Hornecker - SWDIV	Bill Sedlak - OHM

T=2°C

EMAX Torrance, CA

ANALYSIS DESIRED (INDICATE SEPARATE CONTAINERS)

ITEM NO.	SAMPLE NUMBER	DATE	TIME	COMP	GRAB	SAMPLE DESCRIPTION (INCLUDE MATRIX AND POINT OF SAMPLE)	NUMBER OF CONTAINERS	8015m-tPH-Purgeable	8015M-tPH-Extractable	8020-BTEX	8260-VOC	310.1-Alk (Carbonate + Bicarbonate)	6010-Cations	160.1-TDS	Anions	REMARKS
1	17486-275	4/30/97	0700		X	Trip Blank	2	X		X	X					
2	17486-276	4/30/97	0730		X	Equipment Rinsate - pump A	3	X	X	X						5 day TAT
3	17486-277	4/30/97	1350		X	Groundwater @ TF6MW02 pump A Tank Farm 6	10	X	X	X		X	X	X	X	
4	17486-278	4/30/97	1351		X	Groundwater @ TF6MW02 pump A Tank Farm 6	10	X	X	X		X	X	X	X	
5	17486-279	4/30/97	0840		X	Equipment Rinsate - pump C	3	X	X	X						5 day TAT
6	17486-280	4/30/97	1300		X	Groundwater @ TF6MW01 pump C Tank Farm 6	10	X	X	X		X	X	X	X	
7	17486-281	4/30/97	0900		X	Equipment Rinsate pump D	3	X	X	X						5 day TAT
8																
9						(R) 4/30/97										
10																

TRANSFER NUMBER	ITEM NUMBER	TRANSFERS RELINQUISHED BY	TRANSFERS ACCEPTED BY	DATE	TIME
1	1-7	(R)/OHM	[signature]	4/30/97	1510
2	1-7	[signature]	[signature]	4/30/97	1740
3					
4					

REMARKS
EMAX courier pickup
14 day TAT
cations: Fe, Mn, Ca, Mg, K, Na
Anions: chloride = 9250; sulfate = 375.4; Nitrate = 3
Nitrite = 300.0 + Flouride = 300.0

SAMPLER'S SIGNATURE [signature]

1002

EPA METHOD 5030/M8015
TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/17486/D.O. 24
Batch No. : 97D155
Matrix : WATER

Date Collected : 04/30/97
DaTime Received: 04/30/97
Instrument ID : GCT014

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	SURR (%)	DLF	MOIST	PRL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
17486-275	D155-01	ND	85	1	NA	.05	.036	05/01/9718:19	05/01/9718:19	BE01-18	BE01-13	VAE0114
17486-276	D155-02	ND	86	1	NA	.05	.036	05/01/9718:48	05/01/9718:48	BE01-19	BE01-13	VAE0114
17486-277	D155-03	1.06	83	1	NA	.05	.036	05/01/9719:17	05/01/9719:17	BE01-20	BE01-13	VAE0114
17486-278	D155-04	1.05	86	1	NA	.05	.036	05/01/9719:46	05/01/9719:46	BE01-21	BE01-13	VAE0114
17486-279	D155-05	ND	84	1	NA	.05	.036	05/01/9720:15	05/01/9720:15	BE01-22	BE01-13	VAE0114
17486-280	D155-06	1.71	90	1	NA	.05	.036	05/01/9720:44	05/01/9720:44	BE01-23	BE01-13	VAE0114
17486-281	D155-07	ND	83	1	NA	.05	.036	05/01/9721:41	05/01/9721:41	BE01-25	BE01-24	VAE0114
MBLK1W	VAE0114B	ND	87	1	NA	.05	.036	05/01/9710:52	05/01/9710:52	BE01-3	BE01-2	VAE0114

PRL: Project Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

ENT: OHM REMEDIATION SERVICES
JECT: MCAS EL TORO/17486/D.O. 24
CH NO.: 97D155
HOD: EPA 5030/M8015

RIX:	WATER			% MOISTURE:	NA
TN FACTR:	1	1	1		
PLE ID:	MBLK1W				
TROL NO.:	VAE0114B	VAE0114L	VAE0114C		
FILE ID:	BE01-3	BE01-4	BE01-5		
IME EXTRCTD:	05/01/9710:52	05/01/9711:21	05/01/9711:50	DATE COLLECTED:	NA
IME ANALYZD:	05/01/9710:52	05/01/9711:21	05/01/9711:50	DATE RECEIVED:	05/01/97
P. BATCH:	VAE0114	VAE0114	VAE0114		
IB. REF:	BE01-2	BE01-2	BE01-2		

CESSION:

RAMETER	BLNK RSLT mg/L	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
SOLINE	ND	.5	.513	103	.5	.447	89	14	70-125	30

RROGATE PARAMETER	SPIKE AMT mg/L	BS RSLT mg/L	BS % REC	SPIKE AMT mg/L	BSD RSLT mg/L	BSD % REC	QC LIMIT %
omofluorobenzene	.05	.0469	94	.05	.0464	93	65-135

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

:ENT: OHM REMEDIATION SERVICES
)JECT: MCAS EL TORO/17486/D.O. 24
'CH NO.: 97D155
THOD: EPA 5030/M8015

TRIX:	WATER			% MOISTURE:	NA
.TN FACTR:	1	1	1		
MPLE ID:	17306-1068				
NTROL NO.:	D154-02	D154-2M	D154-2S		
3 FILE ID:	BE01-11	BE01-26	BE01-27		
TIME EXTRCTD:	05/01/9714:55	05/01/9722:10	05/01/9722:39	DATE COLLECTED:	04/30/97
TIME ANALYZD:	05/01/9714:55	05/01/9722:10	05/01/9722:39	DATE RECEIVED:	04/30/97
EP. BATCH:	VAE0114	VAE0114	VAE0114		
LIB. REF:	BE01-2	BE01-24	BE01-24		

CESSION:

RAMETER	SMPL RSLT mg/L	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
SOLINE	ND	.5	.384	77	.5	.394	79	3	65-135	30

RROGATE PARAMETER	SPIKE AMT mg/L	MS RSLT mg/L	MS % REC	SPIKE AMT mg/L	MSD RSLT mg/L	MSD % REC	QC LIMIT %
omofluorobenzene	.05	.0454	91	.05	.0462	92	65-135

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-275	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-01	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	95	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-276	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-02	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	92	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-277	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-03	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	103	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-278	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-04	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	95	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

LIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
ROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-279	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-05	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	102	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-280	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-06	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	230E	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	42	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	110	60-140

PRL: Project Reporting Limit
E : Exceeded calibration, sample was reanalyzed at DF = 5.

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-280	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-06T	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	5

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	190	5
Toluene	ND	5
Ethylbenzene	ND	5
Total Xylenes	31	5
MTBE	ND	5

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	90	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	QHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	17486-281	DATE ANALYZED:	05/01/97
CONTROL NO.:	D155-07	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	96	60-140

PRL: Project Reporting Limit

EPA METHOD 8020
BTEX & MTBE

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D155	DATE EXTRACTED:	NA
SAMPLE ID:	MBLK1W	DATE ANALYZED:	05/01/97
CONTROL NO.:	VAE0113B	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1
Total Xylenes	ND	1
MTBE	ND	1

SURROGATE PARAMETER	% RECOVERY	QC LIMIT
1-Bromo-4-fluorobenzene	90	60-140

PRL: Project Reporting Limit

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8020
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D155
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: VAE0113L/C

DATE RECEIVED: NA
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

ACCESSION: 97D155 97E002

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Benzene	ND	10.00	10.10	101	10.00	10.40	104	2	39-150	30
Toluene	ND	10.00	10.10	101	10.00	10.30	103	2	46-148	30
Ethylbenzene	ND	10.00	10.10	101	10.00	10.40	104	2	32-160	30
Total Xylenes	ND	30.00	30.10	100	30.00	30.80	103	2	61-129	30
MTBE	ND	10.00	10.60	106	10.00	10.60	106	0	40-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT %
1-Bromo-4-fluorobenzene	20.00	18.50	92	20.00	17.60	88	60-140

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA 8020
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D155
SAMPLE ID: 17486-278
CONTROL NO.: D155-04

DATE RECEIVED: 04/30/97
DATE EXTRACTED: NA
DATE ANALYZED: 05/01/97

ACCESSION: 97D155 97E002

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Benzene	ND	10.00	12.50	125	10.00	13.00	130	4	39-150	30
Toluene	ND	10.00	11.00	110	10.00	11.30	113	3	46-148	30
Ethylbenzene	ND	10.00	10.30	103	10.00	10.70	107	4	32-160	30
Total Xylenes	ND	30.00	30.30	101	30.00	31.70	106	4	61-129	30
MTBE	ND	10.00	5.11	51	10.00	5.76	58	12	40-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	SPIKE AMT (ug/L)	MSD RSLT (ug/L)	MSD % REC	QC LIMIT %
1-Bromo-4-fluorobenzene	20.00	17.00	85	20.00	18.00	90	60-140

EPA METHOD M8015
TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/3[illegible]
BATCH NO.:	97D155	DATE EXTRACTED:	05/0[illegible]/
MATRIX:	WATER	DATE ANALYZED:	05/02/97

SAMPLE ID	CONTROL NO	RESULT (mg/L)	H-C RANGE	% RECOVERY SURR1	% RECOVERY SURR2	DL FACTOR	PRL (mg/L)
17486-276	D155-02	ND	N.A.	87	104	1	.5
17486-277	D155-03	ND	N.A.	84	106	1	.5
17486-278	D155-04	ND	N.A.	92	114	1	.5
17486-279	D155-05	ND	N.A.	89	108	1	.5
17486-280	D155-06	ND	N.A.	80	101	1	.5
17486-281	D155-07	ND	N.A.	69	84	1	.5
MBLK1W	DSE001WB	ND	N.A.	88	112	1	.5
QC LIMIT:				65-135	60-140		

SURR1 : Bromobenzene
SURR2 : Hexacosane
PRL : Project Reporting Limit
H-C RANGE: C10-C15 = JP5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil

EMAX

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: OHM Remediation Services
PROJECT: MCAS El Toro/17486/D.O. 24
METHOD: EPA M8015
MATRIX: WATER
% MOISTURE: NA

BATCH NO.: 97D155
SAMPLE ID: LCS1W/LCD1W
CONTROL NO.: DSE001WL/C

DATE RECEIVED: NA
DATE EXTRACTED: 05/01/97
DATE ANALYZED: 05/02/97

ACCESSION: 97D155 D154 E001 E004

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
Diesel	ND	1.00	.86	86	1.00	.87	87	1	65-135	30

SURROGATE PARAMETER	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	QC LIMIT %
Bromobenzene	1.00	.91	91	1.00	.90	90	65-135
Hexacosane	1.00	1.08	108	1.00	1.07	107	60-140

EMAX LABORATORIES, INC. 620 Maple Ave. Torrance, CA 90503 TEL (310) 618-8889 FAX (310) 618-0818

EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	05/02/97
SAMPLE ID:	17486-277	DATE ANALYZED:	05/02/97
CONTROL NO.:	D155-03	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	55100
Iron	50	123
Magnesium	500	38100
Manganese	10	205
Potassium	1000	4040
Sodium	1000	100000

PRL: Project Reporting Limit

EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	05/02/97
SAMPLE ID:	17486-278	DATE ANALYZED:	05/02/97
CONTROL NO.:	D155-04	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	55300
Iron	50	127
Magnesium	500	39800
Manganese	10	210
Potassium	1000	4410
Sodium	1000	104000

PRL: Project Reporting Limit

EMAX LABORATORIES, INC., 630 Maple Ave., Torrance, CA 90503 TEL: (310) 618-8889 FAX: (310) 618-0818

EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	04/30/97
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	04/30/97
BATCH NO.:	97D155	DATE EXTRACTED:	05/02/97
SAMPLE ID:	17486-280	DATE ANALYZED:	05/02/97
CONTROL NO.:	D155-06	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	98600
Iron	50	ND
Magnesium	500	61400
Manganese	10	82.2
Potassium	1000	3460
Sodium	1000	81100

PRL: Project Reporting Limit

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EPA METHOD 3005/6010
METALS BY ICP

CLIENT:	OHM Remediation Services	DATE COLLECTED:	NA
PROJECT:	MCAS El Toro/17486/D.O. 24	DATE RECEIVED:	NA
BATCH NO.:	97D155	DATE EXTRACTED:	05/02/97
SAMPLE ID:	MBLK1W	DATE ANALYZED:	05/02/97
CONTROL NO.:	IPE003WB	MATRIX:	WATER
% MOISTURE:	NA	DILUTION FACTOR:	1

Element	PRL (ug/L)	RESULT (ug/L)
Calcium	1000	ND
Iron	50	ND
Magnesium	500	ND
Manganese	10	ND
Potassium	1000	ND
Sodium	1000	ND

PRL: Project Reporting Limit

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EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

LIENT: OHM Remediation Services
ROJECT: MCAS El Toro/17486/D.O. 24
ETHOD: EPA 3005/6010
ATRIX: WATER

==========

ATCH NO.: 97D155
AMPLE ID: 17486-277
ONTROL NO.: D155-03

DATE RECEIVED: 04/30/97
DATE EXTRACTED: 05/02/97
DATE ANALYZED: 05/02/97

CCESSION: 97D155

ARAMETER	SAMPLE RESULT (ug/L)	SERIAL DILUTION RESULT (ug/L)	DIFFERENCE RESULT (%)
alcium	55100	54700	1
ron	123	ND	NA
agnesium	38100	39100	3
anganese	205	209	2
otassium	4040	ND	NA
odium	100000	110000	10
C LIMIT:			10

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Continue

EMAX QUALITY CONTROL DATA
SPIKE ANALYSIS

IENT: OHM Remediation Services
OJECT: MCAS El Toro/17486/D.O. 24
D: EPA 3005/6010
: WATER

TCH NO.: 97D155
MPLE ID: 17486-277
NTROL NO.: D155-03

DATE RECEIVED: 04/30/97
DATE EXTRACTED: 05/02/97
DATE ANALYZED: 05/02/97

CESSION: 97D155

RAMETER	SAMPLE RESULT (ug/L)	SPIKE CONC. (ug/L)	SPIKE RESULT (ug/L)	SPIKE RECRY. (%)
lcium	55100	50000	96500	83
on	123	10000	8612	85
gnesium	38100	50000	80700	85
nganese	205	1000	1039	83
tassium	4044	50000	51200	94
dium	100000	50000	137000	74G
LIMIT:				75-125

: Out of QC limit probably due to matrix interferences.

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